Service
Service
Service

Service Manual

Horizontal Frequency
30 kHz to 81 kHz

Table of Contents

Description	Page	Description	Page
Table Of Contents	1	7. Schematic Diagram	31
Revision List	2	7.1 Main Board	31
Important Safety Notice	3	7.2 Power Board	36
1.Monitor Specifications	4	7.3 USB Board	38
2.LCD Monitor Description	5	7.4 Key Board	40
3.Operation Instructions	6	8. PCB Layout	41
3.1.General Instructions	6	8.1. Main Board	41
3.2.Control Buttons	7	8.2. Power Board	43
3.3 Adjusting the Picture	9	8.3. Key Board	44
4. Input/Output Specification	15	8.4 USB Board	45
4.1.Input Signal Connector	15	9. Maintainability	46
4.2.Factory Preset Display Modes	16	9.1.Equipments and Tools Requirement	46
4.3.Power Supply Requirements	16	9.2.Trouble Shooting	48
4.4.Panel Specification	17	10.White-Balance, Luminance adjustment	53
4.5.Definition of Pixel Defects	18	11.ISP Instruction	54
5.Block Diagram	20	12. Monitor Exploded View	60
5.1.Software Flow Chart	20	13. BOM List	61
5.2.Electrical Block Diagram	22	14. Different Parts List	77
6. Mechanical Instructions	24		

SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFOMER FOR THIS UNIT WHEN SERVICING

Revision List

Revision	Release Date	Revise history	TPV model
A00	Jan.-08-2006	Initial Release	T96GGCHKFDDGDP T96GGCHKFDDEDP T96SGCHKFDDEDP T96SGCHKFDDFDP T96SGCHKFDDGDP T96SGCHKFDDMDP
A01	FEB-01-2007	Add the torque setting at page 49	All

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all AOC Company Equipment. The service procedures recommended by AOC and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. AOC could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, AOC has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by AOC must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.
Hereafter throughout this manual, AOC Company will be referred to as AOC.

WARNING
Use of substitute replacement parts, which do not have the same, specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from AOC. AOC assumes no liability, express or implied, arising out of any unauthorized modification of design.

Servicer assumes all liability.

FOR PRODUCTS CONTAINING LASER:
DANGER-Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
CAUTION -The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Take care during handling the LCD module with backlight unit
-Must mount the module using mounting holes arranged in four corners.
-Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
-Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
-Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
-Make certain that treatment person’s body is grounded through wristband.
-Do not leave the module in high temperature and in areas of high humidity for a long time.
-Avoid contact with water as it may a short circuit within the module.
-If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

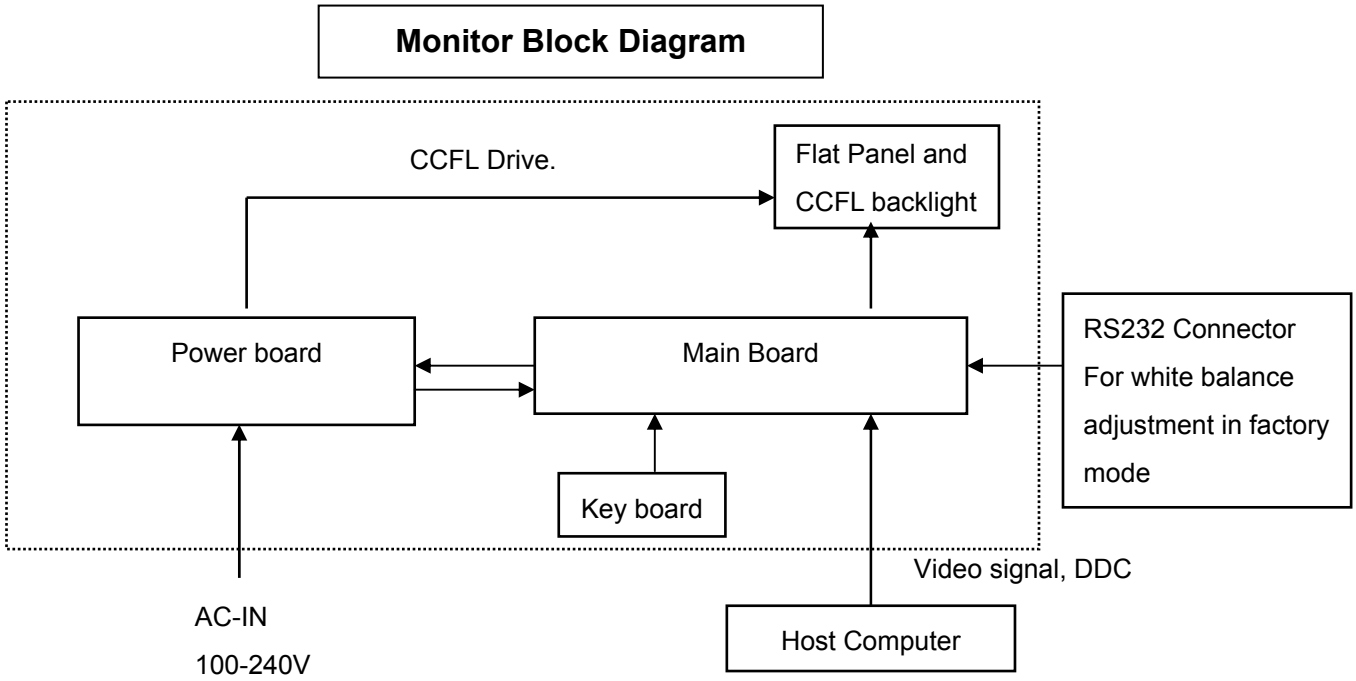
1. Monitor Specifications

LCD Panel	Screen type	Active matrix - TFT LCD
	Panel Type	LM190E08-TLB2 LPL
	Size	19 inches (19-inch viewable image size)
	Pixel pitch	0.294 mm
	Viewable angle	160° (vertical) typ, 160° (horizontal) typ
	Response time	5ms typical
Input	Video	R, G, B Analog Interface, DVI digital Interface
	Separate Sync	H/V TTL
	H-Frequency	30 kHz to 81 kHz (automatic)
	V-Frequency	56 Hz to 76 Hz (automatic)
Display Colors		16.7M
Dot Clock		165MHz (Max.)
Max. Resolution		1280 x 1024 at 75 Hz
Plug & Play		VESA DDC
EPA ENERGY STAR®	ON Mode	35 W (typical)
	OFF Mode	<1W
Input Connector		15-pin D-subminiature, blue connector; DVI-D, white connector
Maximum Screen Size		Horizontal : 473.76 mm (18.65 inches) Vertical: 296.1 mm (11.66 inches)
Power Source		100 to 240 VAC / 50 or 60 Hz ± 3 Hz / 2.0A (Max.)
Environmental Considerations		Operating Temp: 5° to 35°C Operating Humidity: 10% to 80% Storage Temp.: -20° to 60°C
Weight		Weight with packaging: 16.3 lbs (7.4kg) Weight with stand assembly and cables: 12.64 lbs (5.74 kg) Weight without stand assembly: 8.81 lbs (4 kg) Weight of stand assembly: 3.75 lbs (1.7 kg)

2. LCD Monitor Description

The LCD monitor will contain a main board, power board, key board, which house the flat panel control logic, brightness control logic and DDC.

The power board will provide AC to DC Inverter voltage to drive the backlight of panel and the main board chips each voltage.



3. Operation instructions

3.1 General Instructions

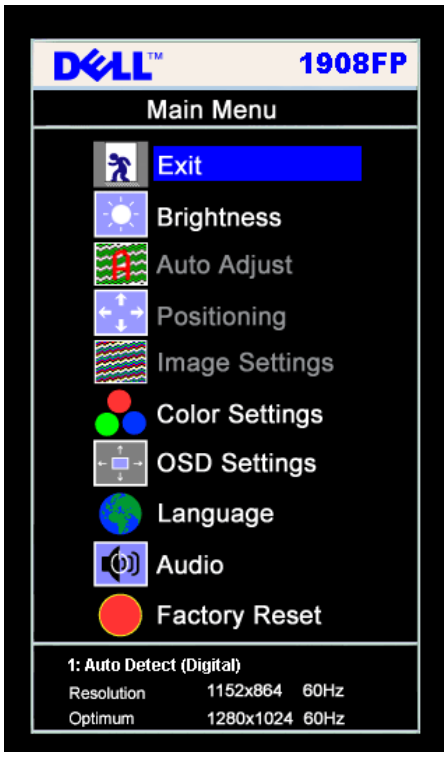
NOTE: If you change the settings and then either proceed to another menu or exit the OSD menu, the monitor automatically saves those changes. The changes are also saved if you change the settings and then wait for the OSD menu to disappear.

1. Push the MENU button to open the OSD menu and display the main menu.

Main Menu for Analog (VGA) Input

or

Main Menu for digital (DVI) Input



Main Menu for Analog (VGA) Input

or

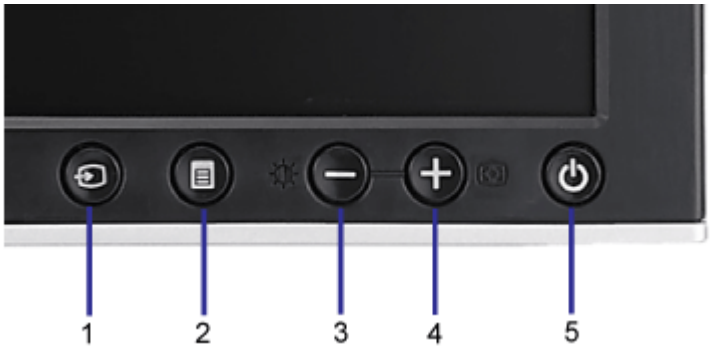
Main Menu for Digital (DVI) Input

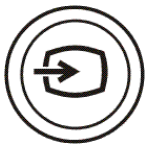
NOTE: Auto Adjust, Positioning and Image Settings are only available when you are using the analog (VGA) connector.

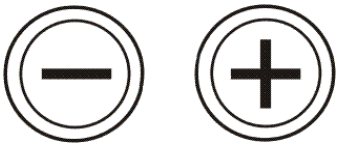
2. Push the - and + buttons to move between the setting options. As you move from one icon to another, the option name is highlighted. See the table below for a complete list of all the options available for the monitor.
3. Push the MENU button once to activate the highlighted option.
4. Push - and + button to select the desired parameter.
5. Push MENU to enter the slide bar and then use the - and + buttons, according to the indicators on the menu, to make your changes.
6. Push the MENU button once to return to the main menu to select another option or push the MENU button two or three times to exit from the OSD menu.

When the OSD is locked, pressing the menu button takes the user directly to the OSD settings menu, with OSD Lock selected. Select No (-) to unlock and allow user access to all applicable settings.

3.2 Control Buttons

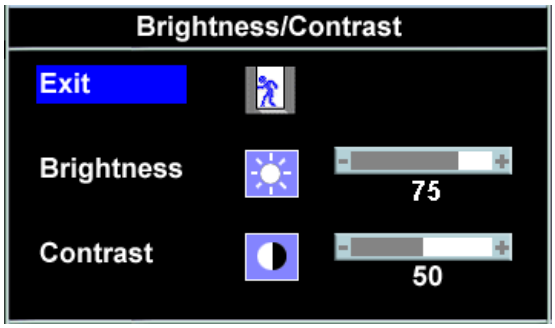
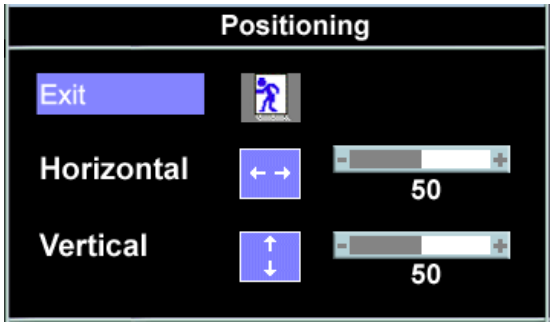


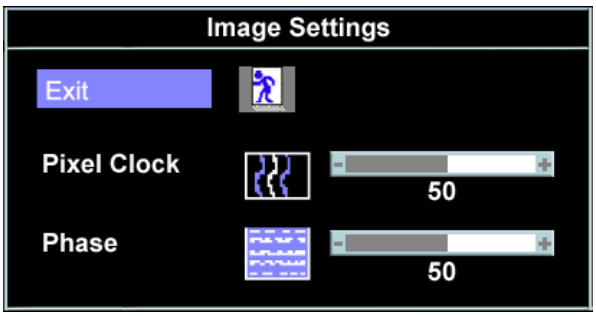
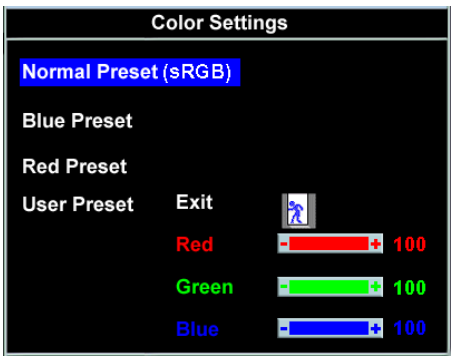
1	 **Video input select**	Use the Input Select button to select between two different video signals that may be connected to your monitor. If both VGA and DVI caables are connected to one PC, this monitor will display an image automatically just as long as a video signal is present in either VGA or DVI outputs. When connecting one display to two PCs, if using screen savers, best to set both to the exact times. Whichever mouse is moved first will activate that video input first. *NOTE: The floating 'Dell Self-test Feature Check' dialog appears on a black background if the monitor cannot sense a video signal. Using the input select button, select the desired input to be tested either Analog Input or Digital Input. Disconnect the video cable from the video card and the Dell Self-test Feature Check dialogue box will appear if the display is operating correctly.*

2	 **OSD menu / select**	The Menu button is used to open and exit the on-screen display (OSD), and exit from menus and sub-menus. See Using the OSD Menu.
3	 **Brightness Menu**	Use this button to launch Brightness menu.
3,4	 **Down (-) and Up (+)**	Use these buttons to adjust (decrease/increase ranges) items in the OSD menu.
4	 **Auto Adjust**	Use this button to activate automatic setup and adjustment. The following dialog appears on a black screen as the monitor self-adjusts to the current input: Auto Adjust In Progress Auto Adjustment button allows the monitor to self-adjust to the incoming video signal. After using Auto Adjustment, you can further tune your monitor by using the Pixel Clock (Coarse), Phase (Fine) controls in the OSD. **NOTE:** Auto Adjust does not occur if you press the button while there are no active video input signals or attached cables.

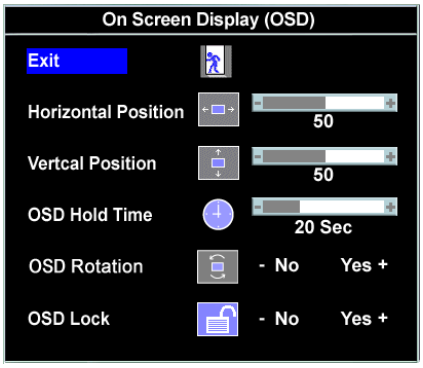
5	**Power Button and Indicator**	Use the power button to turn the monitor on and off. The green light indicates the monitor is on and fully functional. An amber light indicates power save mode.

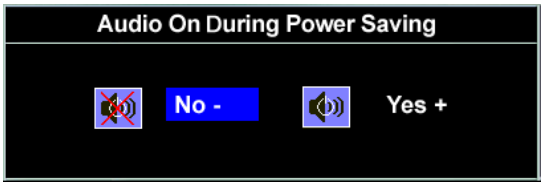
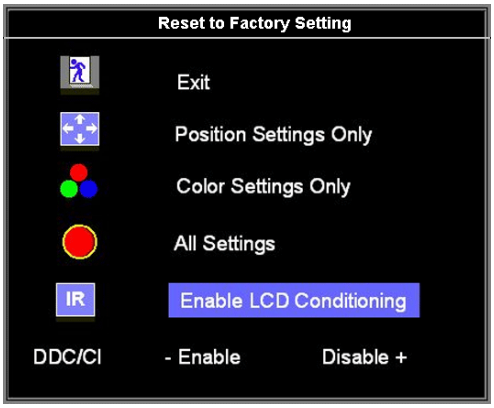
3.3 Adjusting the Picture

Icon	Menu and Submenus	Description
	Exit	Select to exit the Main menu.
	Brightness/ Contrast	Brightness adjusts the luminance of the backlight. Adjust Brightness first, then adjust Contrast only if further adjustment is necessary. Push the + button to increase luminance and push the - button to decrease luminance (min 0 ~ max 100). Contrast adjusts the degree of difference between darkness and lightness on the monitor screen. Push the + button to increase the contrast and push the - button to decrease the contrast (min 0 ~ max 100). 
	Positioning: Horizontal Vertical	Positioning moves the viewing area around on the monitor screen. When making changes to either the Horizontal or Vertical settings, no changes occur to the size of the viewing area. The image shifts in response to your selection. Minimum is 0 (-) and maximum is 100 (+).  NOTE: When using DVI source, the Positioning option is not available.

	Auto Adjust	Even though your computer recognizes your monitor on startup, the Auto Adjustment function optimizes the display settings for use with your particular setup. Select to activate automatic setup and adjustment. The following dialog appears on a black screen as the monitor self-adjusts to the current input: Auto Adjust In Progress Auto Adjustment allows the monitor to self-adjust to the incoming video signal. After using Auto Adjustment, you can further tune your monitor by using the Pixel Clock (Coarse) and Phase (Fine) controls under Image Settings. NOTE: In most cases, Auto Adjust produces the best image for your configuration.
	Image settings: **Pixel Clock (Coarse)** **Phase (Fine)**	The Phase and Pixel Clock adjustments allow you to more closely adjust your monitor to your preference. These settings are accessed through the main OSD menu, by selecting Image Settings. Use the - and + buttons to make adjustments. (Minimum: 0 ~ Maximum: 100) If satisfactory results are not obtained using the Phase adjustment, use Pixel Clock (Coarse) and then use Phase (fine), again. NOTE: This function may change the width of the display image. Use the Horizontal function of the Position menu to center the display image on the screen.  NOTE: When using DVI source, the Image Settings option is not available.
	Color Settings	Color Settings adjusts the color temperature, color hue, and saturation. The color hue is most noticeable in areas of white. 

	Normal Preset	Normal Preset is selected to obtain the default (factory) color settings. This setting is also the “sRGB” standard default color space.
	Blue Preset	Blue Preset is selected to obtain a bluish tint. This color setting is typically used for text based applications (spreadsheets, programming, text editors, etc.).
	Red Preset	Red Preset is selected to obtain a redder tint. This color setting is typically used for color-intensive applications (photograph image editing, multimedia, movies, etc.).
	User Preset	User Preset: Use the plus and minus buttons to increase or decrease each of the three colors (R, G, B) independently, in single digit increments, from 0 to 100.
	OSD Settings:	Adjust the settings for the OSD, including the location, the amount of time the menu remains on-screen, and the rotation of the OSD. Position of the OSD:
	Horizontal Position **Vertical Position**	• To adjust the horizontal position of the OSD, use the - and + buttons, and move OSD to the left and right. • To adjust the vertical position of the OSD, use the - and + buttons, and move OSD down and up.
	OSD Hold Time	OSD Hold Time: The OSD stays active for as long as it is in use. Adjusting the hold time, sets the length of time the OSD remains active after the last time you pressed a button. Use the - and + buttons to adjust the slider in 5 second increments, from 5 to 60 seconds.
	OSD Lock	OSD Lock: Controls user access to adjustments. When Yes (+) is selected, no user adjustments are allowed. All buttons are locked except the menu button. ***NOTE:*** *When the OSD is locked, pressing the menu button takes the user directly to the OSD settings menu, with OSD Lock selected. Select No (-) to unlock and allow user access to all applicable settings.*



		NOTE: You can also lock or unlock the OSD by pushing and holding the Menu button for 15 seconds.
	Language	Select to have the OSD display in one of five languages (English, French, Spanish, German, or Japanese). *NOTE: The change only affects the OSD. It has no effect on any software running on the computer.*
	Audio (optional)	You can select to have the audio on or off when the monitor is in power saving mode. **Yes** — enables audio **No** — disables audio (default) 
	Factory Reset:	Reset the OSD menu options to the factory preset values.  **Exit** — Select to exit out of Reset to Factory Settings menu without resetting any OSD options. **Position settings only** — Change the settings for Image Position back to original factory settings. **Color settings only** — Change the Red, Green, and Blue settings back to their original factory settings and set the default setting for Normal Preset. **All settings** — Change all the user-adjustable settings including color, position,

brightness, and contrast and OSD hold time to the factory defaults. The language of the OSD does not change.

IR — This feature will help reduce minor cases of image retention.

Enable LCD Conditioning: If an image appears to be stuck on the monitor, select **LCD Conditioning** to help eliminate any image retention. Using the LCD Conditioning feature may take several hours. Severe cases of image retention are known as burn-in, the LCD Conditioning feature does not remove burn-in.

NOTE: Use LCD Conditioning only when you experience a problem with image retention.

Below warning message appears once user select “Enable LCD Conditioning”:

This feature will help reduce minor cases of image retention.
Depending on the degree of image retention, the program may take some time to run.
Do you want to continue?
- No
Yes +

NOTE: Press any button on the monitor to terminate LCD Conditioning at any time.

DDC/CI — Enable the DDC/CI control function.

DDC/CI (Display Data Channel/Command Interface) allows you to adjust the monitor parameters (brightness, color balance, etc) via software applications on your PC.

Default is "Enable". You can disable this feature by selecting "Disable".

For best user experience and optimum performance of your monitor, keep this feature enabled.

NOTE: If user select "Disable", display Warning message box as below. Select "Yes" disables DDC/CI and return to "Factory Reset" menu. Warning message time-out in 20 sec.

OSD Warning Messages

One of the following warning messages may appear on the screen indicating that the monitor is out of synchronization.

1. Auto Detect (Analog Input) Cannot Display This Video Mode **Optimum Resolution 1280 x1024 60Hz**	or	1. Auto Detect (Digital Input) Cannot Display This Video Mode **Optimum Resolution 1280 x1024 60Hz**
2. Analog Input Cannot Display This Video Mode **Optimum Resolution 1280 x1024 60Hz**	or	3. Digital Input Cannot Display This Video Mode **Optimum Resolution 1280 x1024 60Hz**

This means that the monitor cannot synchronize with the signal that it is receiving from the computer. Either the signal is too high or too low for the monitor to use. See specifications for the Horizontal and Vertical frequency ranges addressable by this monitor. Recommended mode is 1280 X 1024 @ 60Hz.

NOTE: The floating Dell Self-test Feature Check dialog appears on-screen if the monitor cannot sense a video signal.

Occasionally, no warning message appears, but the screen is blank. This could also indicate that the monitor is not synchronizing with the computer.

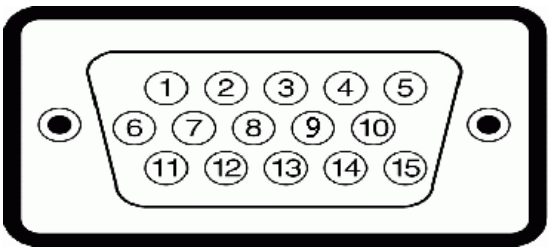
4. Input/Output Specification

4.1 Input Signal Connector

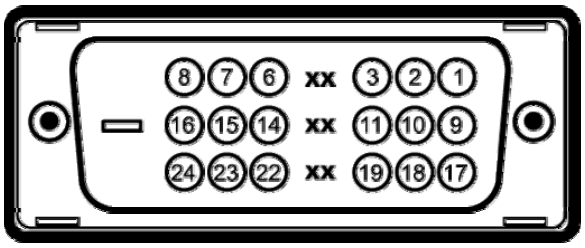
VGA Connector:

Pin No.	Description	Pin No.	Description
1.	Red Video	9.	DDC +5V
2.	Green Video	10.	GND-sync
3.	Blue Video	11.	GND
4.	GND	12.	DDC data
5.	Self-test	13.	H-Sync
6.	R-Ground	14.	V-Sync
7.	G-Ground	15.	DDC clock
8.	B-Ground		

VGA Connector layout



DVI Connector:



Note: Pin 1 is at the top right.

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data 2-	9	T.M.D.S. Data 1-	17	T.M.D.S. Data 0-
2	T.M.D.S. Data 2+	10	T.M.D.S. Data 1+	18	T.M.D.S. Data 0+
3	T.M.D.S. Data 2 Shield	11	T.M.D.S. Data 1 Shield	19	T.M.D.S. Data 0 Shield
4	No Pin	12	No Pin	20	No Pin
5	No Pin	13	No Pin	21	No Pin
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock +
8	No Connect	16	Hot Plug Detect	24	T.M.D.S. Clock -

Universal Serial Bus (USB) Interface

This monitor supports High-Speed Certified USB 2.0 interface.

	Data Rate	Power Consumption
High speed	480 Mbps	2.5W (Max., each port)
Full speed	12 Mbps	2.5W (Max., each port)
Low speed	1.5 Mbps	2.5W (Max., each port)

USB ports:

- 1 upstream - rear
- 4 downstream - 2 on rear; 2 on left side

4.2 Factory Preset Display Modes

VESA MODES							
			Horizontal		Vertical		
Mode	Resolution	Total	Nominal Frequency +/- 0.5kHz	Sync Polarity	Nominal Freq. +/- 1 Hz	Sync Polarity	Nominal Pixel Clock (MHz)
VGA	640x480@60Hz	800 x 525	31.469	N	59.940	N	25.175
	640x480@75Hz	840 x 500	37.500	N	75.00	N	31.500
	800x600@60Hz	1056 x 628	37.879	P	60.317	P	40.000
	800x600@75Hz	1056x625	46.875	P	75.000	P	49.500
XGA	1024x768@60Hz	1344x806	48.363	N	60.004	N	65.000
	1024x768@75Hz	1312x800	60.023	P	75.029	P	78.750
SXGA	1152x864@75Hz	1600x900	67.500	P	75.000	P	108.00
	1280x1024@60Hz	1688x1066	64.000	P	60.000	P	108.00
	1280x1024@75Hz	1688x1066	79.976	P	75.025	P	135.00
Mode DOS	Resolution	Total	Nominal Frequency +/- 0.5kHz	Sync Polarity	Nominal Freq. +/- 1 Hz	Sync Polarity	Nominal Pixel Clock (MHz)
	720x400@70Hz	900 x 449	31.469	N	70.087	P	28.322

4.3 Power Supply Requirements

A/C Line voltage range	: 100 V ~ 240 V
A/C Line frequency range	: 50 ± 3Hz, 60 ± 3Hz
Current	: 1.5A max at 100V; 0.8A max at 240 V
Peak surge current	: < 60A peak at 240 VAC and cold starting
Leakage current	: < 3.5mA
Power line surge	: No advance effects (no loss of information or defect) with a maximum of 1 half-wave missing per second
DC output Voltage	: 5VDC ± 5%; 13VDC± 10%,12VDC± 5%

4.4 Panel Specification

M220Z1-L01C1 ZBD

4.4.1 Display Characteristics

Active screen size	19.0 inches (481.9mm) diagonal
Outline Dimension	396.0(H) x 324.0(V) x 16.5(D) mm(Typ.)
Pixel Pitch	0.098*RGB(H)mm x 0.294(V)mm
Pixel Format	1280 horizontal By 1024 vertical Pixels. RGB stripe arrangement
Interface	LVDS 2Port
Color depth	16.7M colors
Luminance, white	300 cd/m^2 (Center 1Point, Typ.)
Viewing Angle (CR>10)	R/L 160(Typ.), U/D 160(Typ.)
Power Consumption	Total 24.05 Watt(Typ.), (3.45 W@V_{LCD} , 20.6 W@[Lamp=7.5mA])
Weight	2300g (Typ.)
Display operating mode	Transmissive mode, normally White
Surface treatments	Hard coating (3H), Anti-glare treatment of the front polarizer

4.4.2 Optical Characteristics

Ta= 25°C, VLCD=5.0V, fV=60Hz, fCLK=54MHz, IBL=7.5mA

Parameter0		Symbol	Values			Units
			Min	Typ	Max	
Contrast Ratio		CR	500	800	-	
Surface Luminance, white		L_{WH}	250	300	-	cd/m^2
Luminance Variation		δ_{WHITE} 9P	75			%
Response Time	Rise Time	Tr_R	-	1.3	2.6	ms
	Decay Time	Tr_D	-	3.7	7.4	ms
Color Coordinates [CIE1931]	RED	Rx	Typ -0.03	0.639	Typ +0.03	
		Ry		0.342		
	GREEN	Gx		0.297		
		Gy		0.615		
	BLUE	Bx		0.146		
		By		0.068		
	WHITE	Wx		0.313		
		Wy		0.329		
Viewing Angle (CR>5)						
	x axis, right(ϕ=0°)	θr	75	88		Degree
	x axis, left (ϕ=180°)	θl	75	88		
	y axis, up (ϕ=90°)	θu	70	85		
	y axis, down (ϕ=270°)	θd	70	85		
Viewing Angle (CR>10)						
	x axis, right(ϕ=0°)	θr	70	80		Degree
	x axis, left (ϕ=180°)	θl	70	80		
	y axis, up (ϕ=90°)	θu	60	75		
	y axis, down (ϕ=270°)	θd	70	85		
Gray Scale				-		
Crosstalk					1.5	%

4.5 Definition of Pixel Defects

4.5. 1.Description

These inspection standards shall be applied to LCD Module supplied by CHI MEI Optoelectronics Corporation.

4.5.2 The environmental condition of inspection

The environmental condition and visual inspection shall be conducted as below.

Ambient conditions

a. Temperature: 25±5 ℃

b. Humidity: 65 ±10% RH

c. Illumination: Single 20W fluorescent lamp non-directive

(300 to 700 Lux)

Viewing distance

The distance between the LCM and the inspector's eyes shall be at least 30-50㎝.

Viewing Angle

The inspection shall be conducted within normal viewing angle range.

※Refer to the CAS for viewing angle.

4.5.3. Dot Defect

Bright Dot

Dots (sub-pixels) which appeared brightly in the screen when the LCM displayed with Full Black pattern.

-R, G or B 1 dot ----------0 Max

-Adjacent 2 dots ----------0 Max

-Total amount of Bright dots ----------0 Max

Partial Bright Dot

-Partial bright dot (tiny dot) ----------5 Max

* Bright dot and Partial dot definition is referred to the Appendix B

Dark Dot

Dots (sub-pixels) which appeared darkly in the screen when the LCM displayed with bright pattern.

-1 dot ----------5 Max

-Adjacent 2 dots ----------2 Max

-Adjacent 3 dots ----------1 Max

-Total amount of Dark dot ----------5 Max

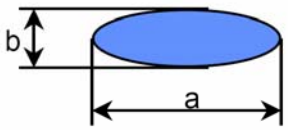
-Minimum distance of Dark dots ----------5mm

Total amount of Dot Defects ----------5 Max (except Partial bright dot)

4.5.4. Polarizer Defects

Items		Criteria
Scratches	Linear	**0.01<W<=0.1, 0.3<L<=7.0, N<=3**
Dent	Circular	**0.3<D<=0.7, N<=5**

D : Average Diameter D=(a+b)/2
W : Width
L : Length
N : Quantity
Linear : a>2b
Circular : a<2b
Unit : mm



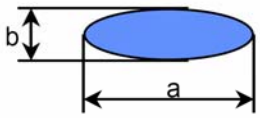
Note) continued

c. Extraneous substances which can be wiped out, like Finger Print, Particles, are not considered as a defect.

b. Defects which is on the Black Matrix(outside of Active Area) are not considered asa defect.

4.5.5 Foreign Material

Items	Criteria
Linear	**0.01<W<=0.1, 0.3<L<=7.0, N<=3**
Circular	**0.3<D<=0.7, N<=5**



D : Average Diameter D=(a+b)/2
W : Width
L : Length
N : Quantity
Linear : a>2b
Circular : a<2b
Unit : mm

*** Maximum allowable number of defects for 3.2 & 3.3 : N<=8**

4.5.6. Line Defect

All kinds of line defects such as vertical, horizontal or cross are not allowed.

4.5.7. Bezel Appearance

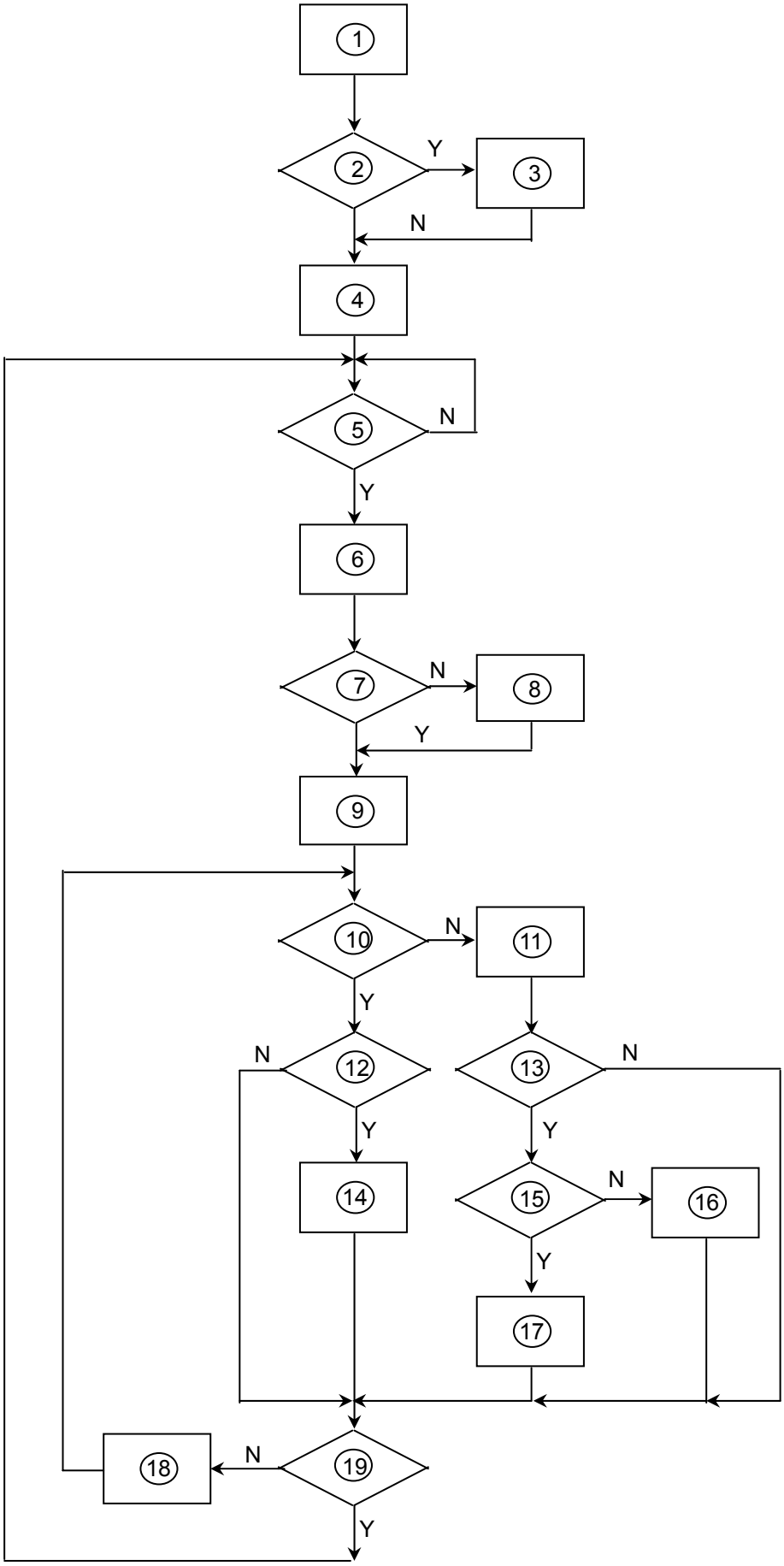
Scratches, minor bents, stains, particles on the Bezel frame are not considered as a defect.

4.5.8. Others

Issues which is not defined in these criteria shall be discussed with both parties, Customer and Supplier, for better solution.

5. Block Diagram

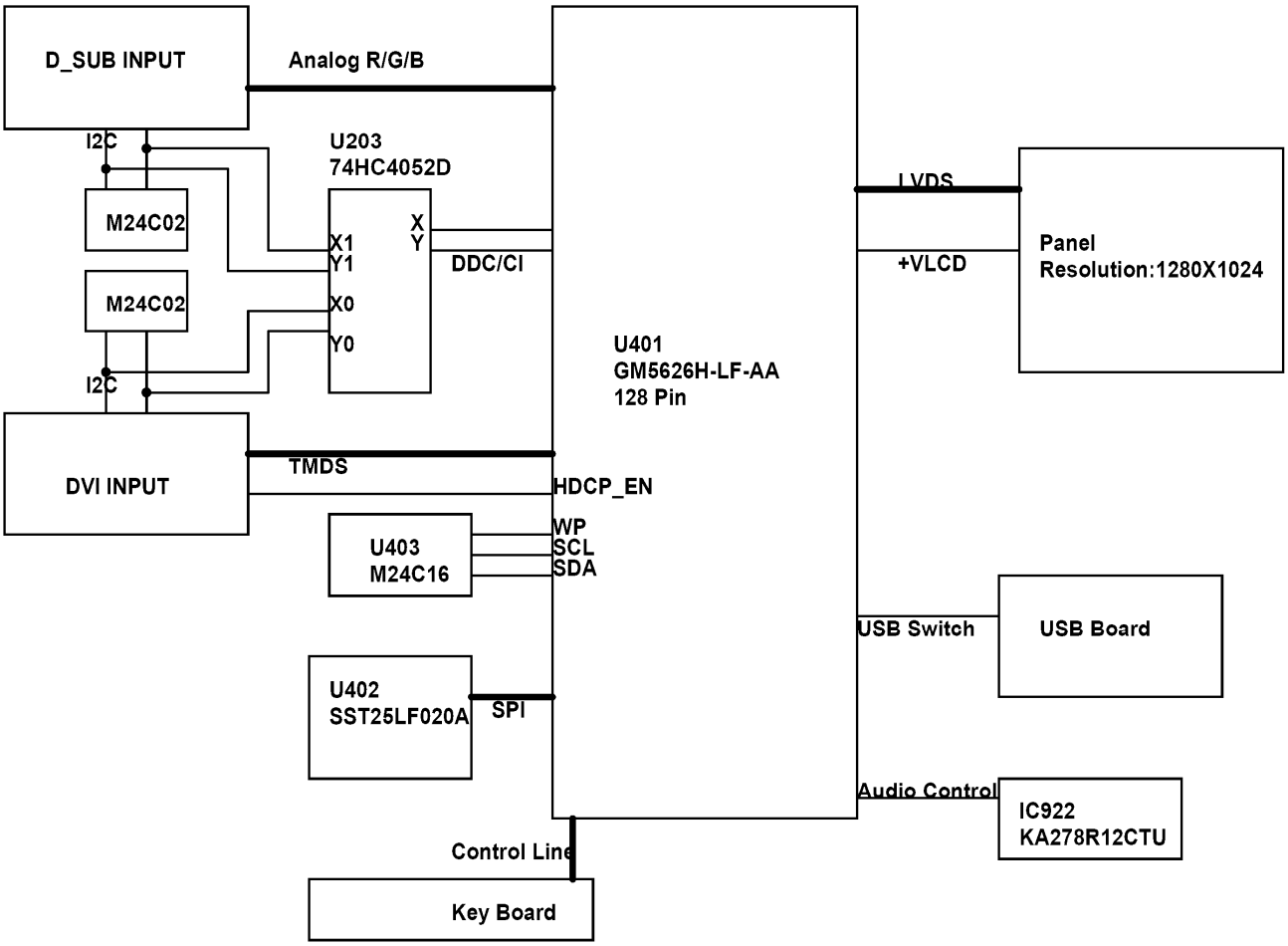
5.1 Software Flow Chart



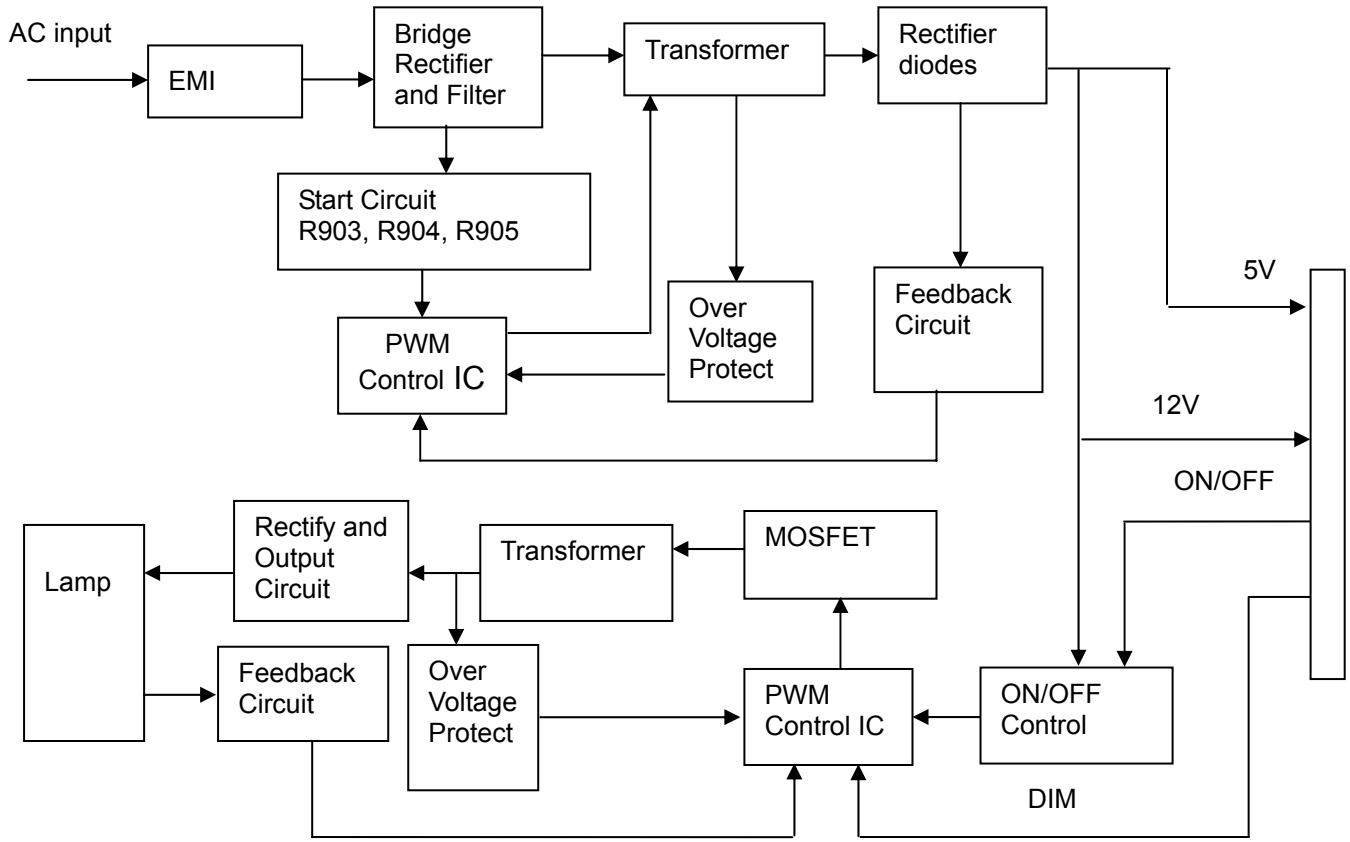
1) MCU Initializes.
2) Is the EEprom blank?
3) Program the EEprom by default values.
4) Get the PWM value of brightness from EEprom.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EEprom. Turn on the LED and set it to green color. Scalar initializes.
10) In standby mode?
11) Update the lifetime of back light.
12) Check the analog port, are there any signals coming?
13) Does the scalar send out an interrupt request?
14) Wake up the scalar.
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappears.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

5.2 Electrical Block Diagram

5.2.1 Main Board



5.2.2 Inverter and Power Board

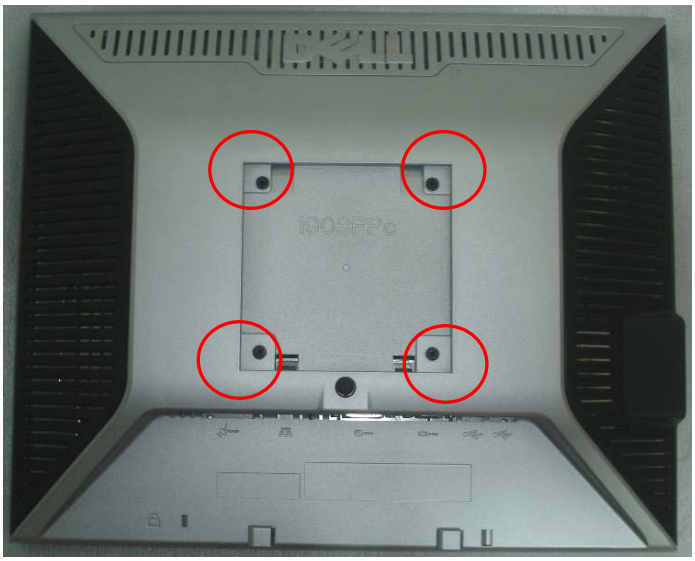


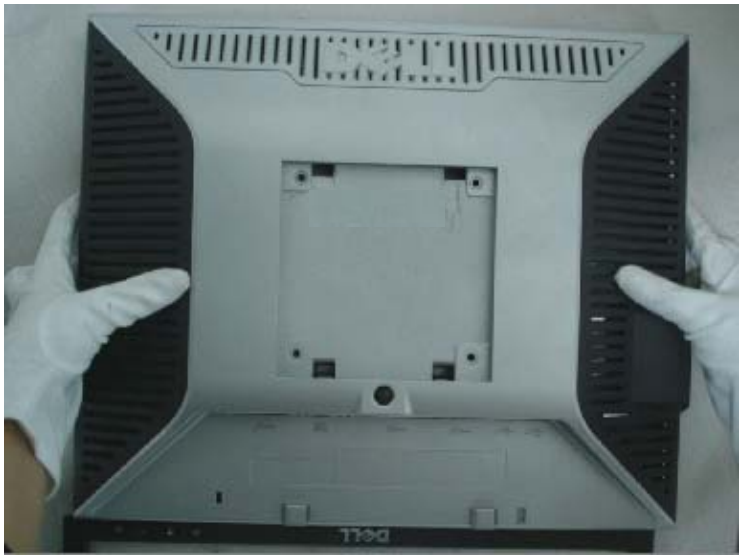
6. Mechanical Instructions

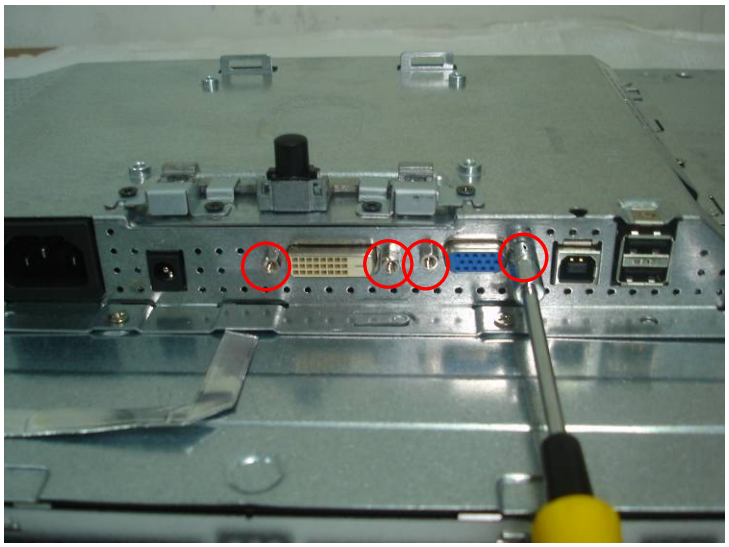
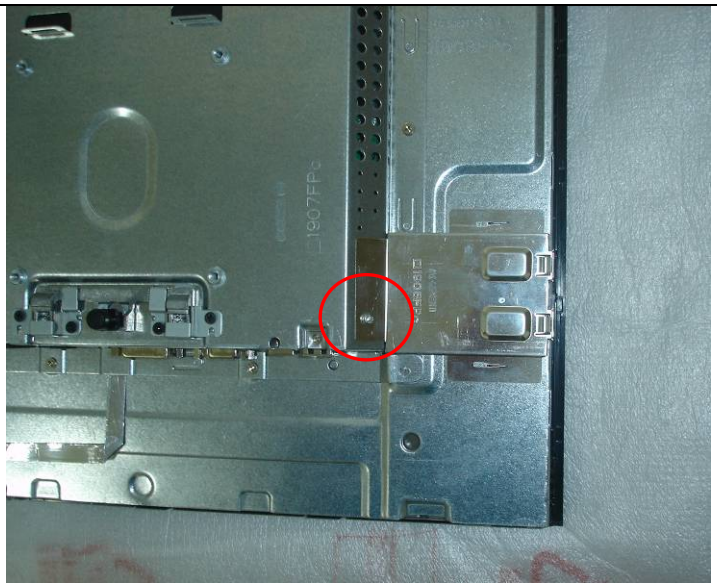
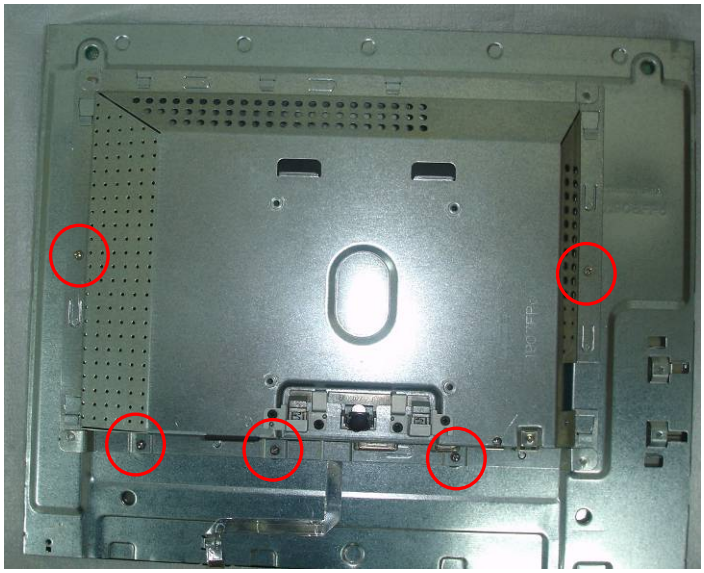
Note: Put the monitor on a soft, flat and clean cushion, wear gloves and ESD ring.

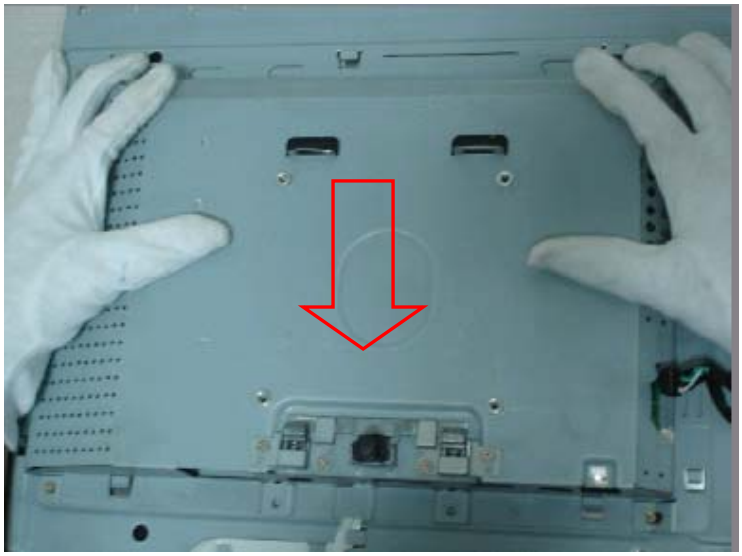
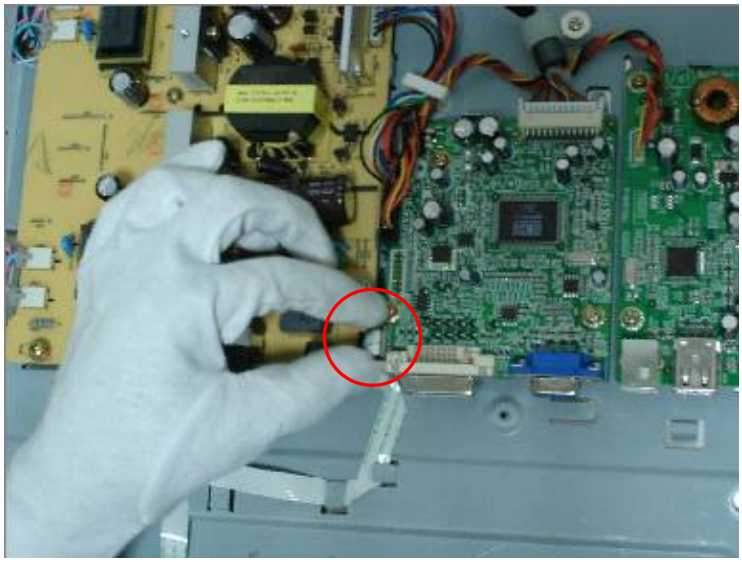
Tools: 2 Power screwdrivers（φ=5mm、L=60mm）; 1 small cross screwdriver; turnbuckle driver;

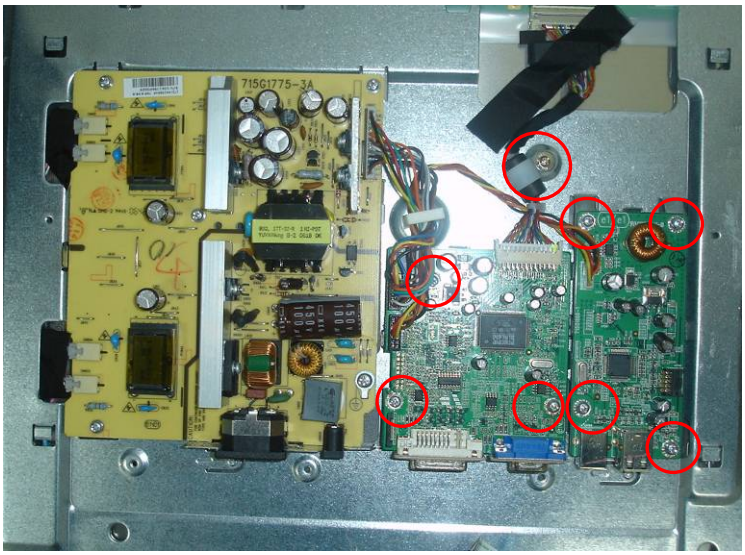
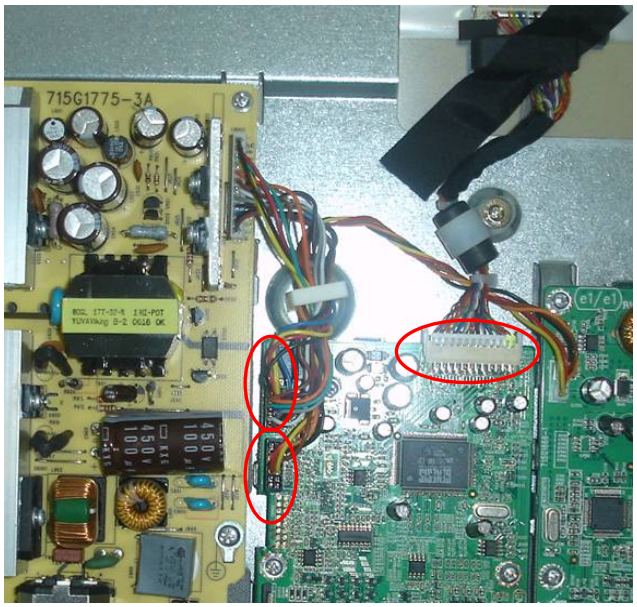
Setting: Power screwdriver torque A=12 KgF. Cm; torque B=6 KgF. Cm; some other small screws must be drove by manual, such as screws for keyboard, the recommend torque is 0.8 KgF. Cm

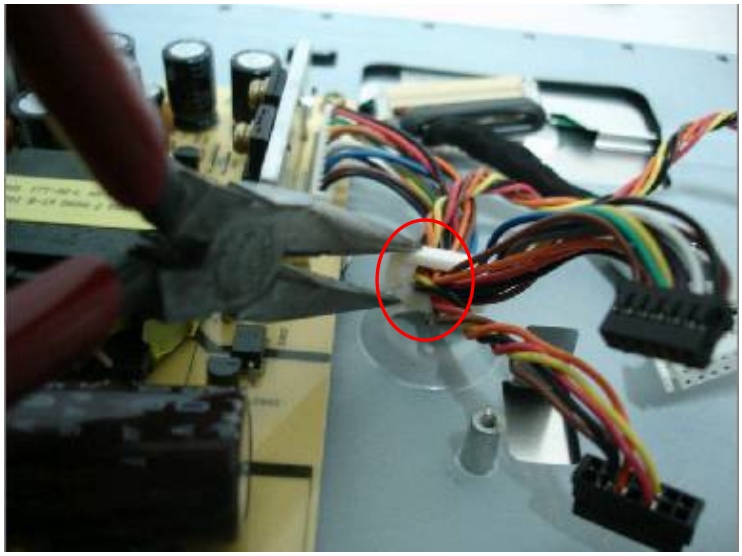
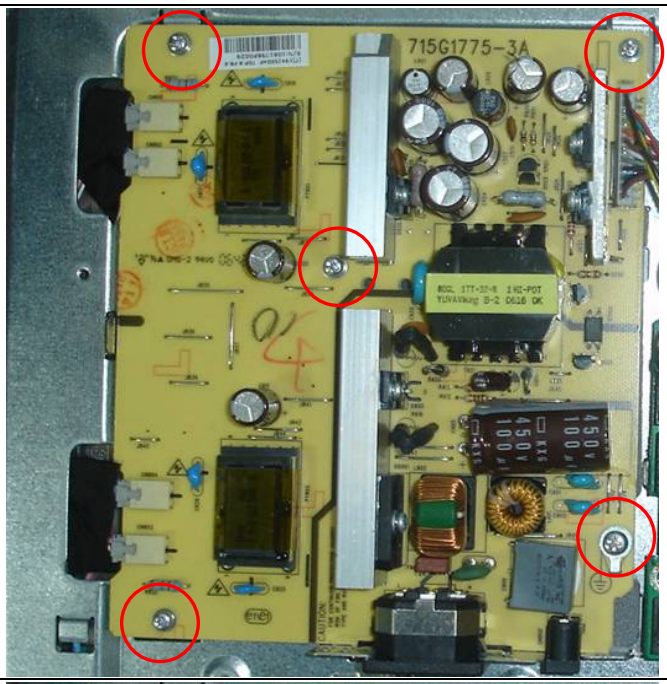
Item	Fig	Remark
Remove stand		1. Rotate the stand to allow access to the stand release button. 2. Press the Stand release button and lift up the Stand and away from the monitor.
Remove rear cover		1. Remove the 4 screws **torque A=12 KgF**

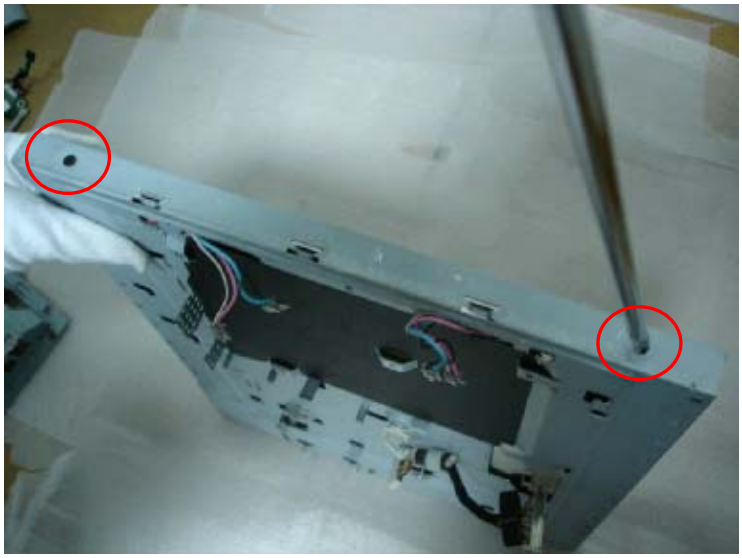
		2. Pry the monitor up then find out the hooks' position, use the tool (like the picture or other card) to insert into the gap of bezel and rear cover.
		3. Turn over the monitor as the Fig, hold the rear cover , then slightly remove it.
Remove bezel		Take off the bezel

Remove the shield		1. Remove the 4 screws torque B
		2. Remove the USB2 board cover torque B OR manual
		3. Remove the 6 screws torque B

		4. Disconnect the wire harness between USB1 and USB2 .
		5. Push the main shield as the arrowhead direction
Disconnect the connector pin		Disconnect the connector pin between key and main boards

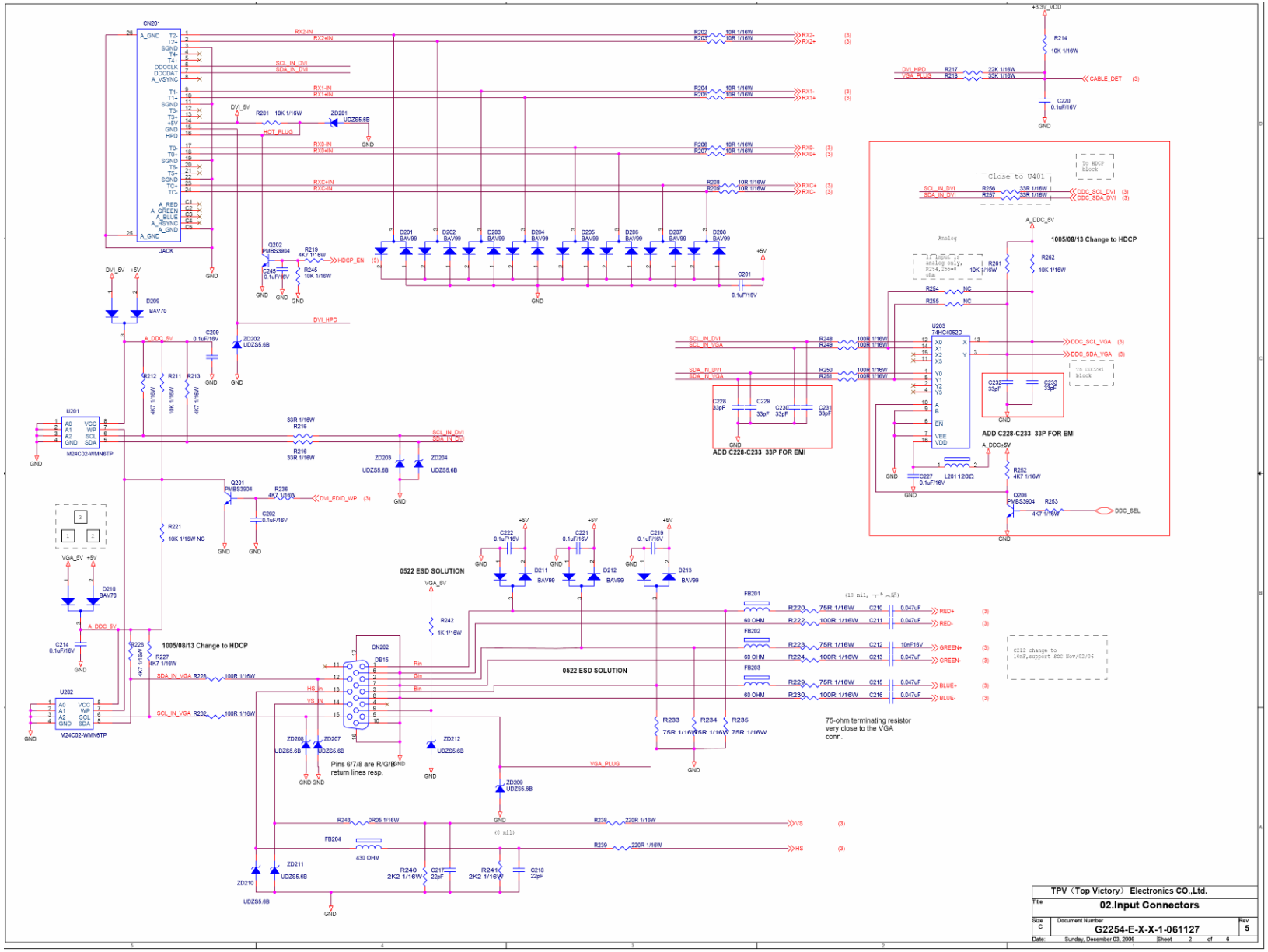
Remove USB and main board		1. Remove the 8 screws torque B
		2. Disconnect the connector wire torque B
		3. Disconnect the wire harness between main board and panel

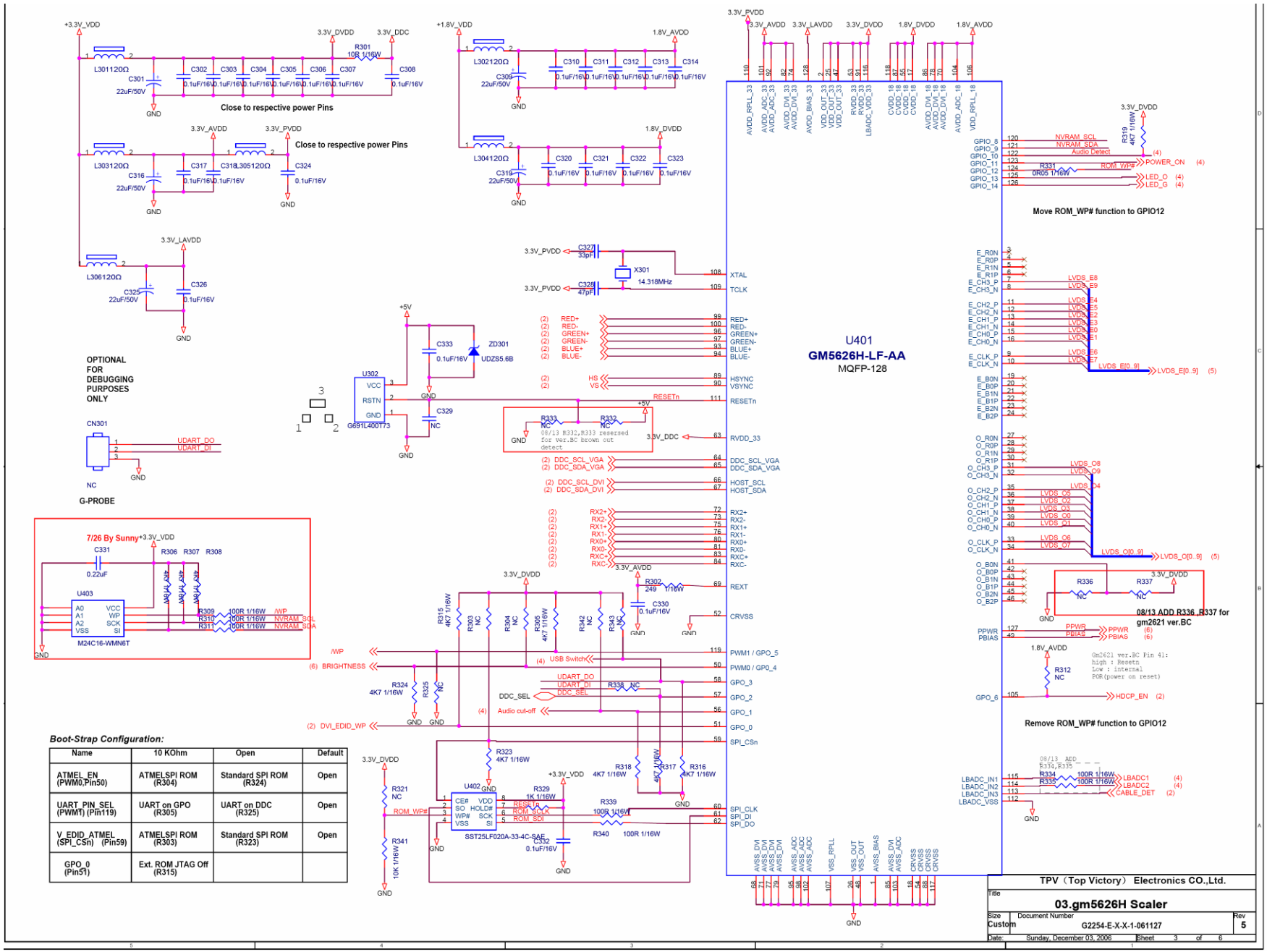
		4. Disconnect the wire holder
Remove the power board		Remove the 5 screws torque B
Disconnect wire harness		Disconnect the wire harness between power board and lamps

Remove USB2 board		Remove the 2 screws and the USB2 Board. torque B
Remove the main frame		Remove the 4 screws (left and right) torque B or manual
The end		

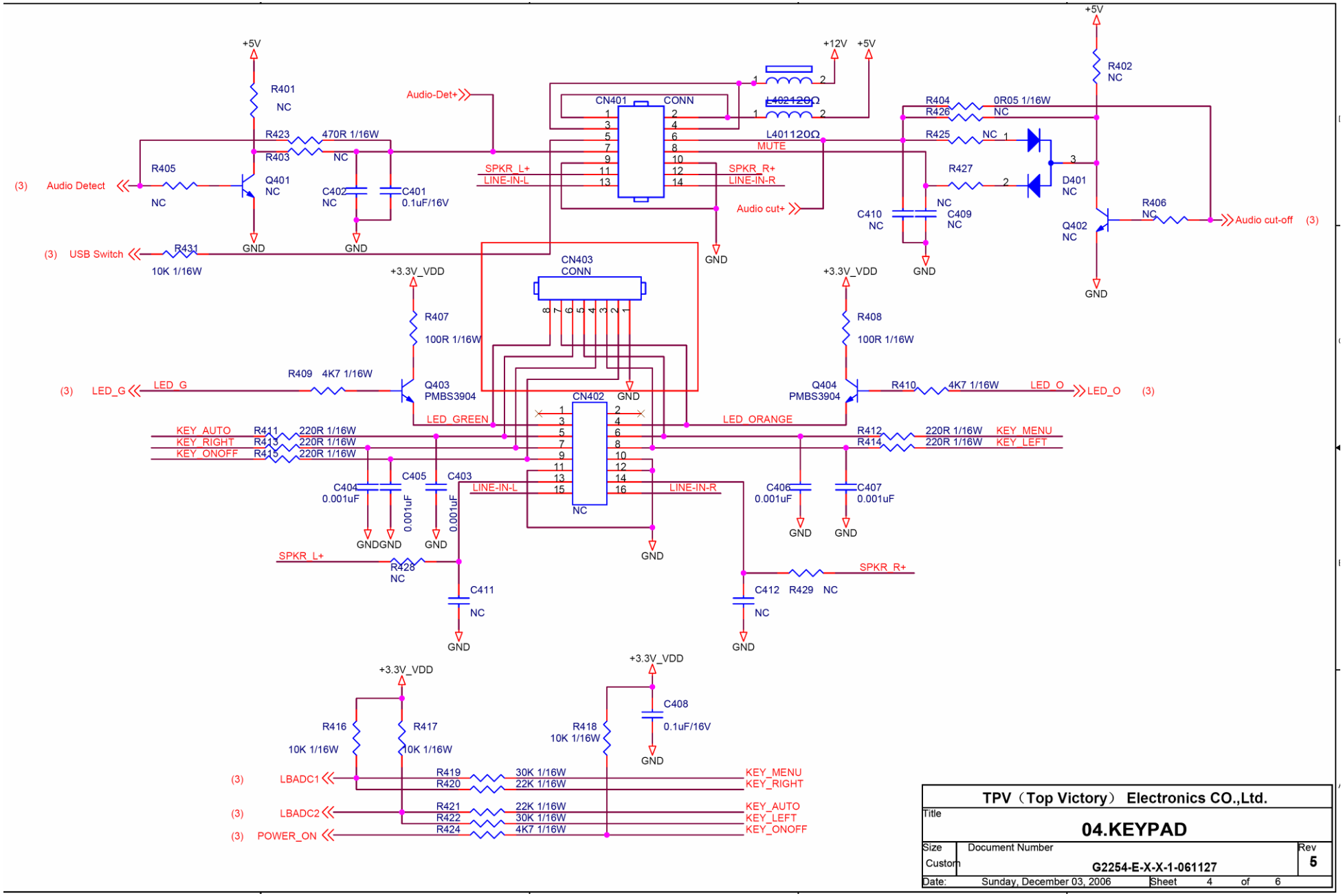
7. Schematic Diagram

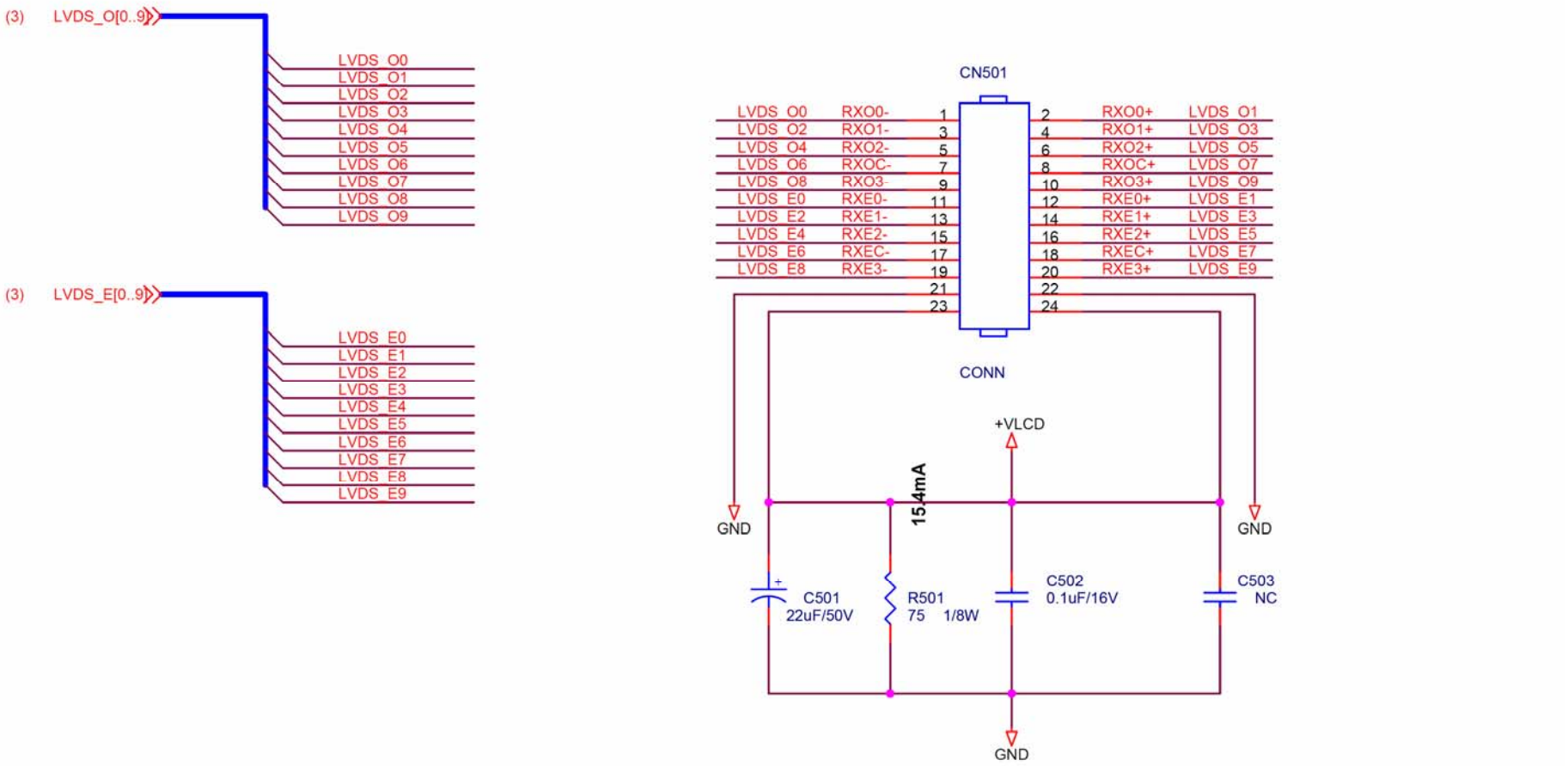
7.1 Main Board


TPV（Top Victory） Electronics CO.,Ltd.
02.Input Connectors
G2254-E-X-X-1-061127
Sunday, December 03, 2006
1005/08/13 Change to HDCP
0522 ESD SOLUTION
ADD C228-C233 33P FOR EMI
75-ohm terminating resistor very close to the VGA conn.
Pins 6/7/8 are R/G/B return lines resp.

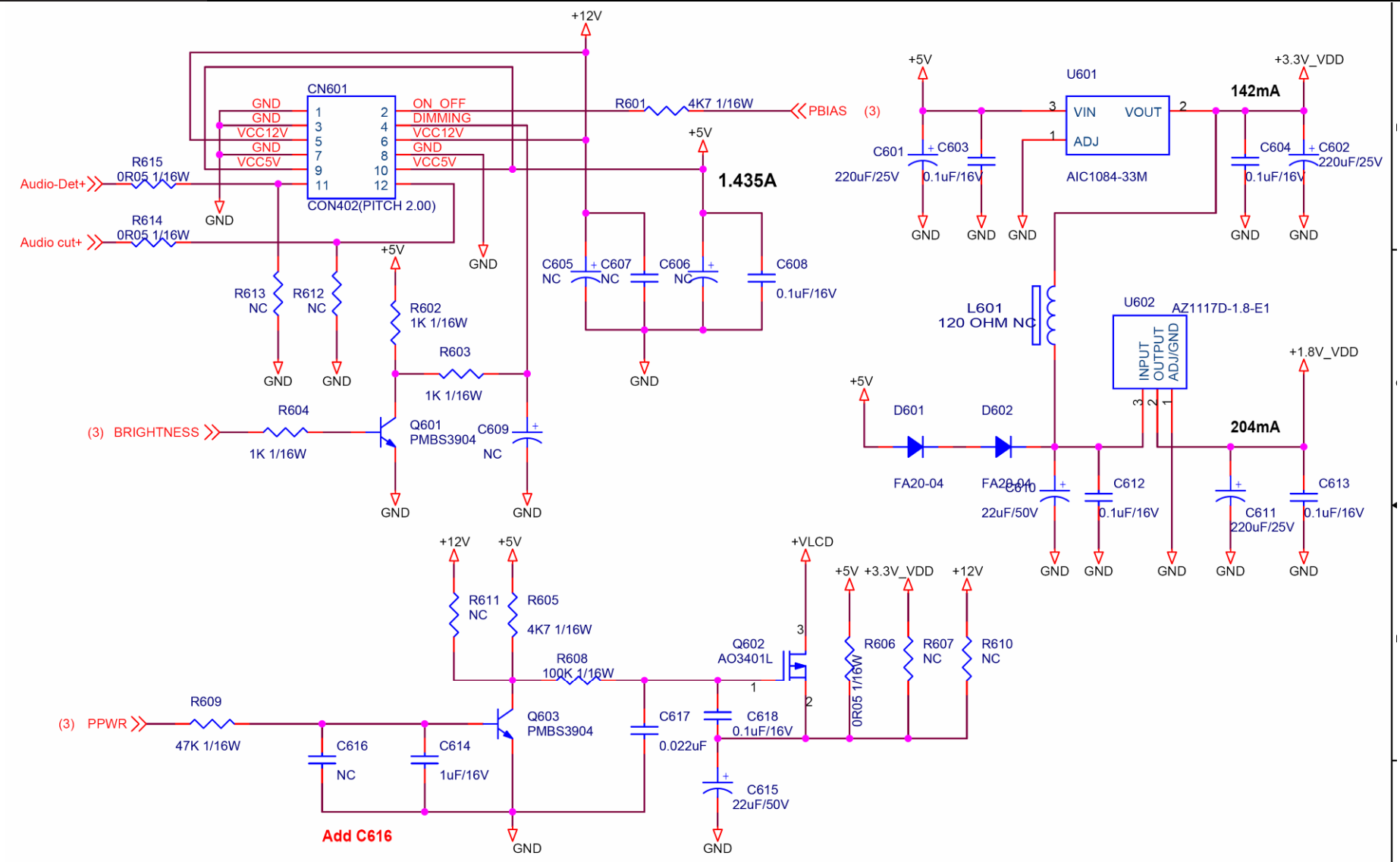


Name	10 KOhm	Open	Default
ATMEL_EN (PWM0,Pin50)	ATMELSPI ROM (R304)	Standard SPI ROM (R324)	Open
UART_PIN_SEL (PWM1) (Pin119)	UART on GPO (R305)	UART on DDC (R325)	Open
V_EDID_ATMEL (SPI_CSn) (Pin59)	ATMELSPI ROM (R303)	Standard SPI ROM (R323)	Open
GPO_0 (Pin51)	Ext. ROM JTAG Off (R315)		


+5V
R401
NC
R423 470R 1/16W
R403 NC
R405
NC
Q401
NC
C402
NC
C401
0.1uF/16V
GND
(3) Audio Detect
(3) USB Switch
R431
10K 1/16W
Audio-Det+
SPKR_L+
LINE-IN-L
CN401 CONN
SPKR_R+
LINE-IN-R
Audio cut+
MUTE
L402120Ω
L401120Ω
+12V
+5V
R402
NC
R404 0R05 1/16W
R426 NC
R425 NC
R427
D401
NC
C410
NC
C409
NC
R406
NC
Q402
NC
Audio cut-off (3)
CN403
CONN
+3.3V_VDD
R407
100R 1/16W
R408
100R 1/16W
R409 4K7 1/16W
(3) LED_G
LED_G
Q403
PMBS3904
Q404
PMBS3904
R410 4K7 1/16W
LED_O
LED_O (3)
CN402
LED_GREEN
LED_ORANGE
KEY_AUTO R411 220R 1/16W
KEY_RIGHT R413 220R 1/16W
KEY_ONOFF R415 220R 1/16W
R412 220R 1/16W KEY_MENU
R414 220R 1/16W KEY_LEFT
C404
0.001uF
C405
0.001uF
C403
0.001uF
C406
0.001uF
C407
0.001uF
LINE-IN-L
LINE-IN-R
NC
SPKR_L+
R428
NC
C411
NC
SPKR_R+
C412 R429 NC
NC
C408
0.1uF/16V
R416
10K 1/16W
R417
10K 1/16W
R418
10K 1/16W
(3) LBADC1
(3) LBADC2
(3) POWER_ON
R419 30K 1/16W
R420 22K 1/16W
R421 22K 1/16W
R422 30K 1/16W
R424 4K7 1/16W
KEY_MENU
KEY_RIGHT
KEY_AUTO
KEY_LEFT
KEY_ONOFF
TPV（Top Victory） Electronics CO.,Ltd.
Title
04.KEYPAD
Size
Custom
Document Number
G2254-E-X-X-1-061127
Rev
5
Date: Sunday, December 03, 2006
Sheet 4 of 6

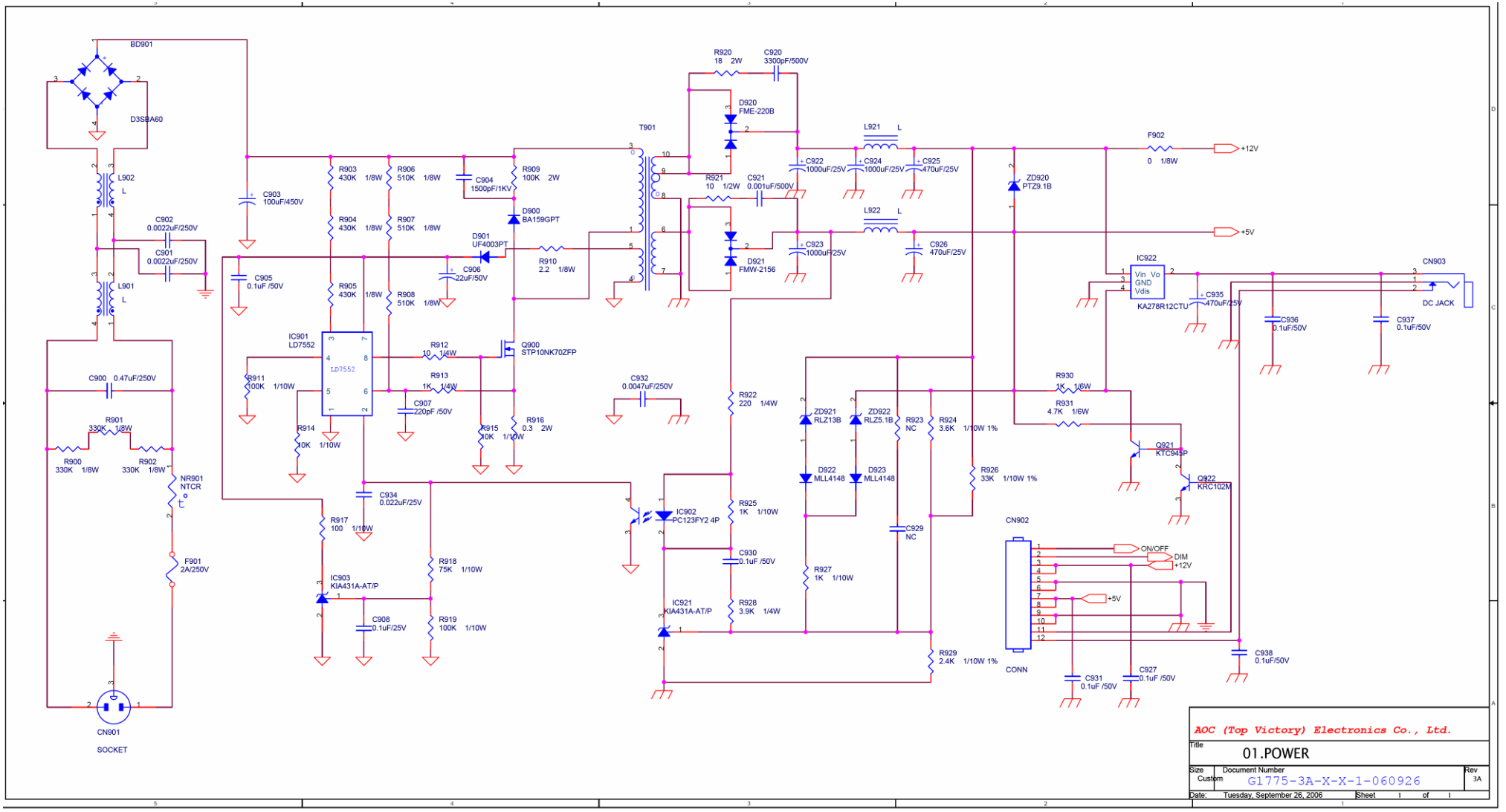


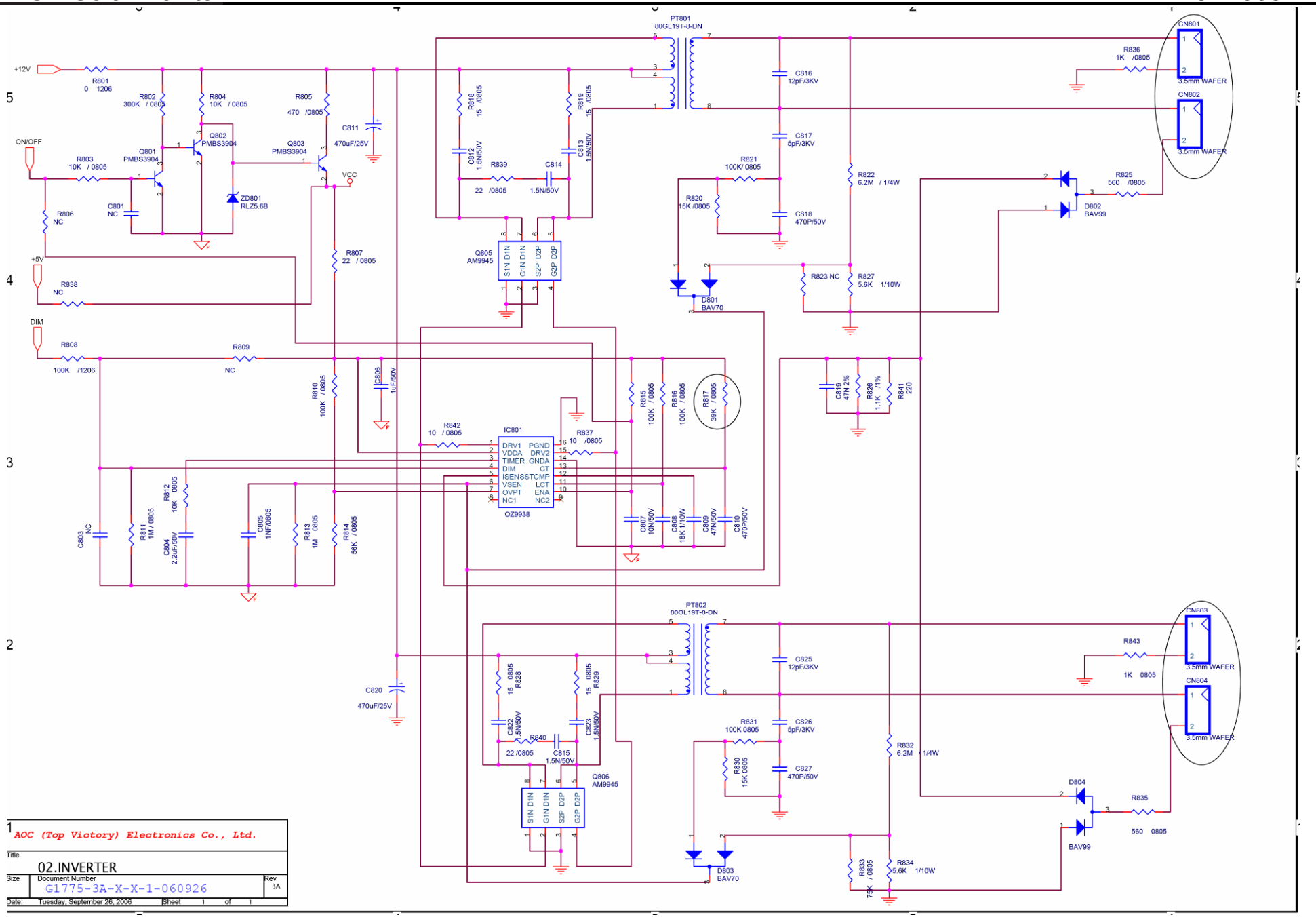
TPV（Top Victory） Electronics CO.,Ltd.		
Title: 05.PANEL INTERFACE		
Size: A	Document Number: G2254-E-X-X-1-061127	Rev: 5
Date: Sunday, December 03, 2006	Sheet 5 of 6	



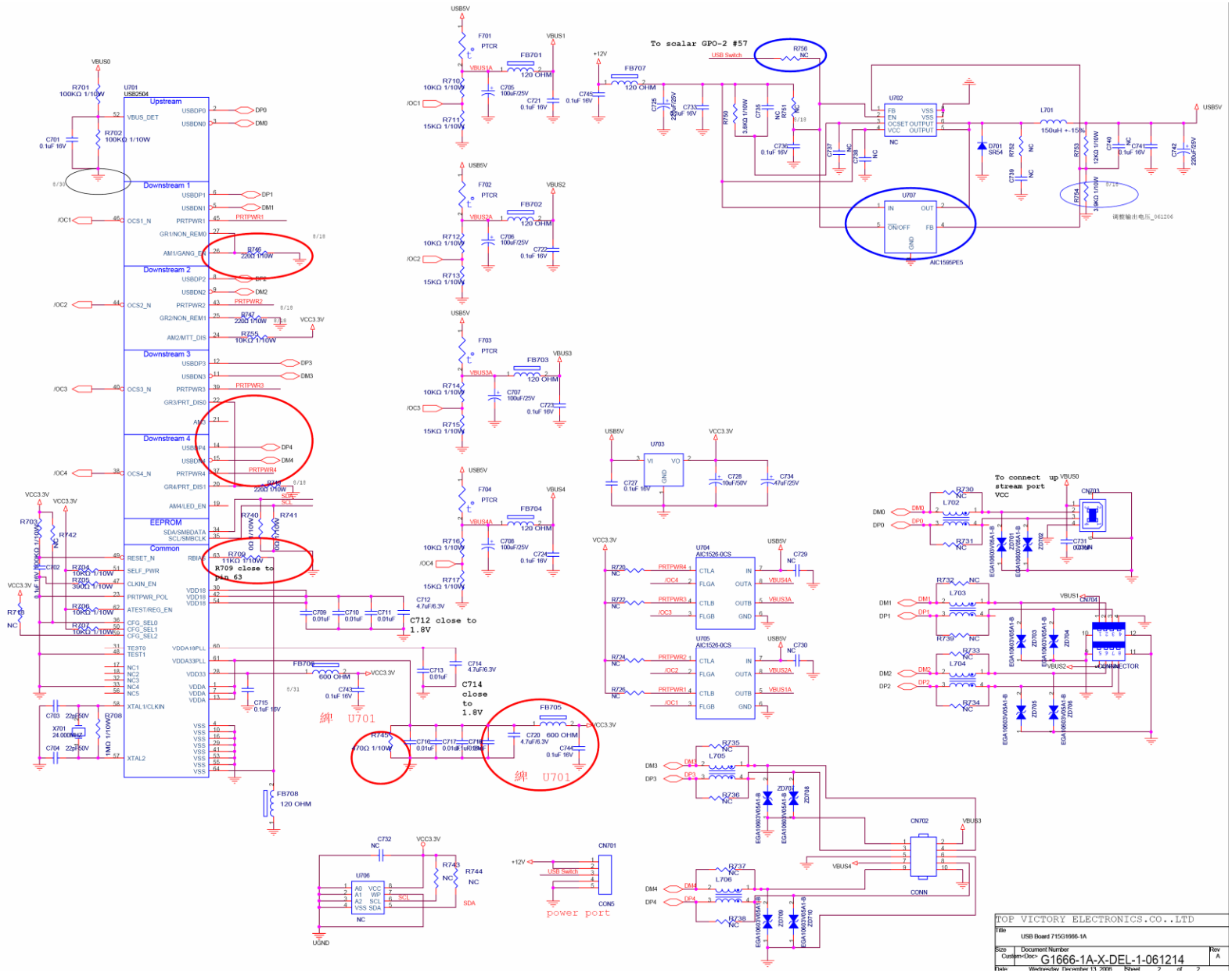
TPV（Top Victory） Electronics CO.,Ltd.		
Title: 06.POWER		
Size: A	Document Number: G2254-E-X-X-1-061127	Rev: 5
Date: Sunday, December 03, 2006	Sheet 6 of 6	

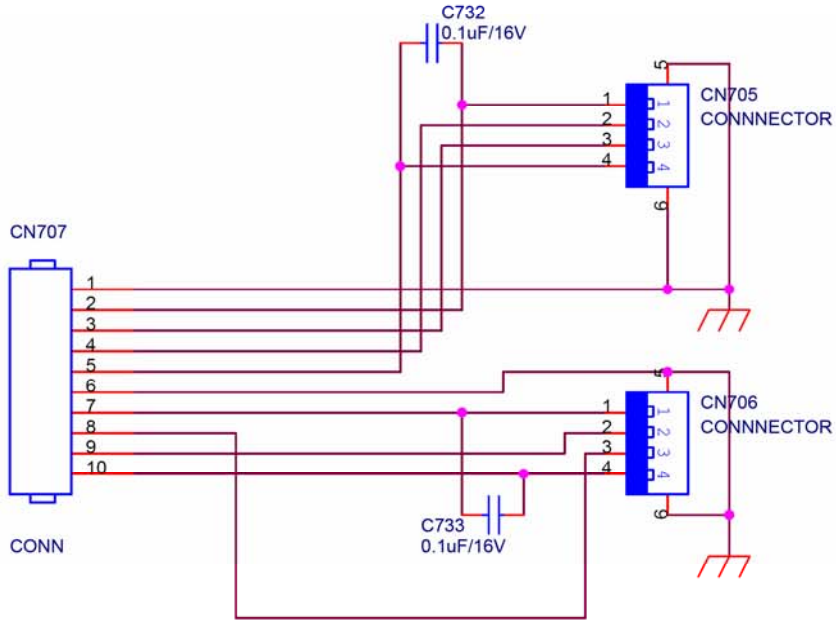
7.2 Power Board




AOC (Top Victory) Electronics Co., Ltd.
Title
02.INVERTER
Size
Document Number
G1775-3A-X-X-1-060926
Rev
3A
Date: Tuesday, September 26, 2006
Sheet 1 of 1
PT801
80GL19T-8-DN
PT802
00GL19T-0-DN
IC801
OZ9938
Q805
AM9945
Q806
AM9945
CN801
CN802
CN803
CN804
3.5mm WAFER
D801
BAV70
D802
BAV99
D803
BAV70
D804
BAV99
ON/OFF
DIM
+12V
+5V
VCC

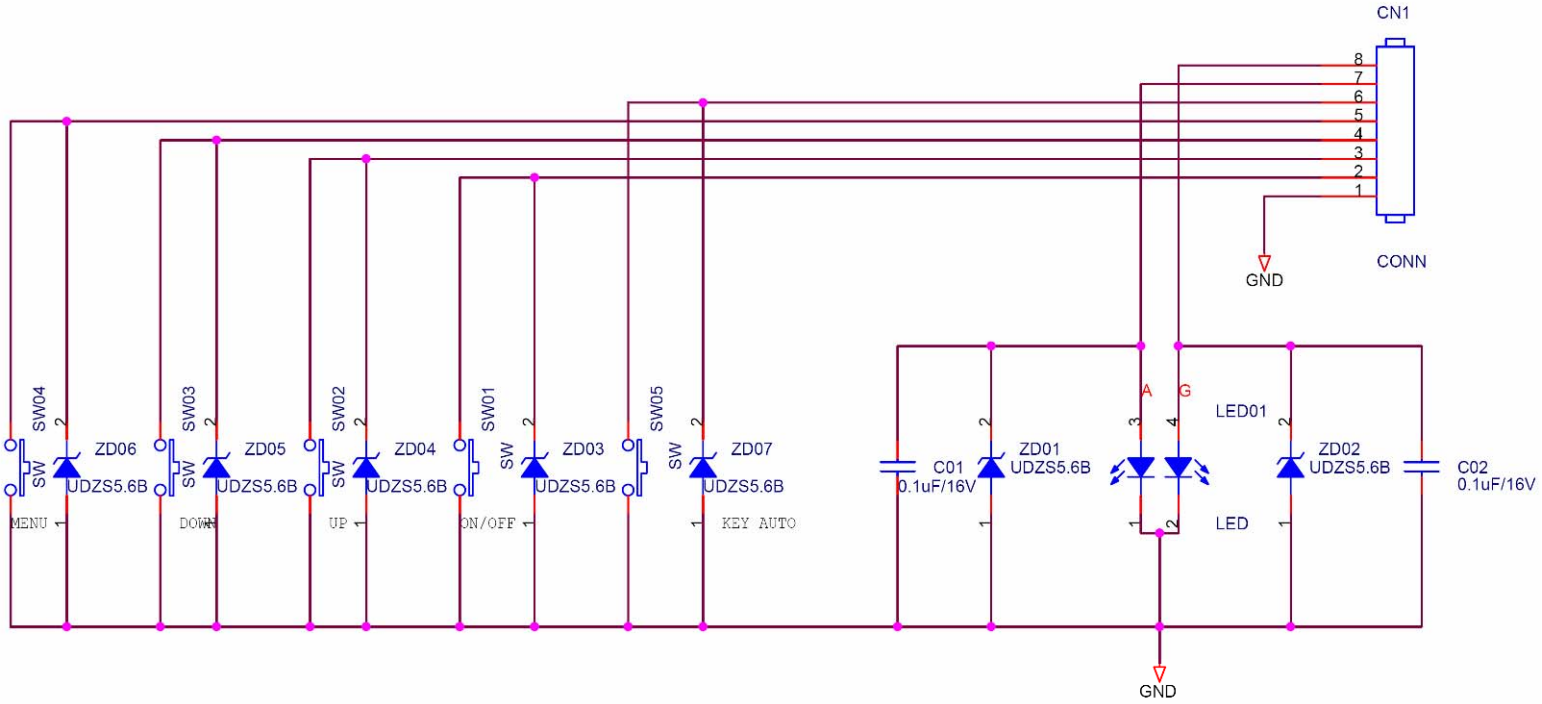
7.3 USB Board


To scalar GPO-2 #57
USB Switch
R756 NC
U702
L701
150uH +-15%
U707
AIC1585PE5
Upstream
Downstream 1
Downstream 2
Downstream 3
Downstream 4
EEPROM
Common
R709 close to pin 63
C712 close to 1.8V
C714 close to 1.8V
To connect up stream port VCC
CONNECTOR
power port
CN701
CN702
CN703
TOP VICTORY ELECTRONICS.CO..LTD
USB Board 715G1666-1A
G1666-1A-X-DEL-1-061214



TPV（Top Victory） Electronics CO.,Ltd.			
Title: 02.USB2 board			
Size: A	Document Number: G1665-1A-2-X-1-061018		Rev: 2
Date: Tuesday, October 31, 2006	Sheet 2 of 2		

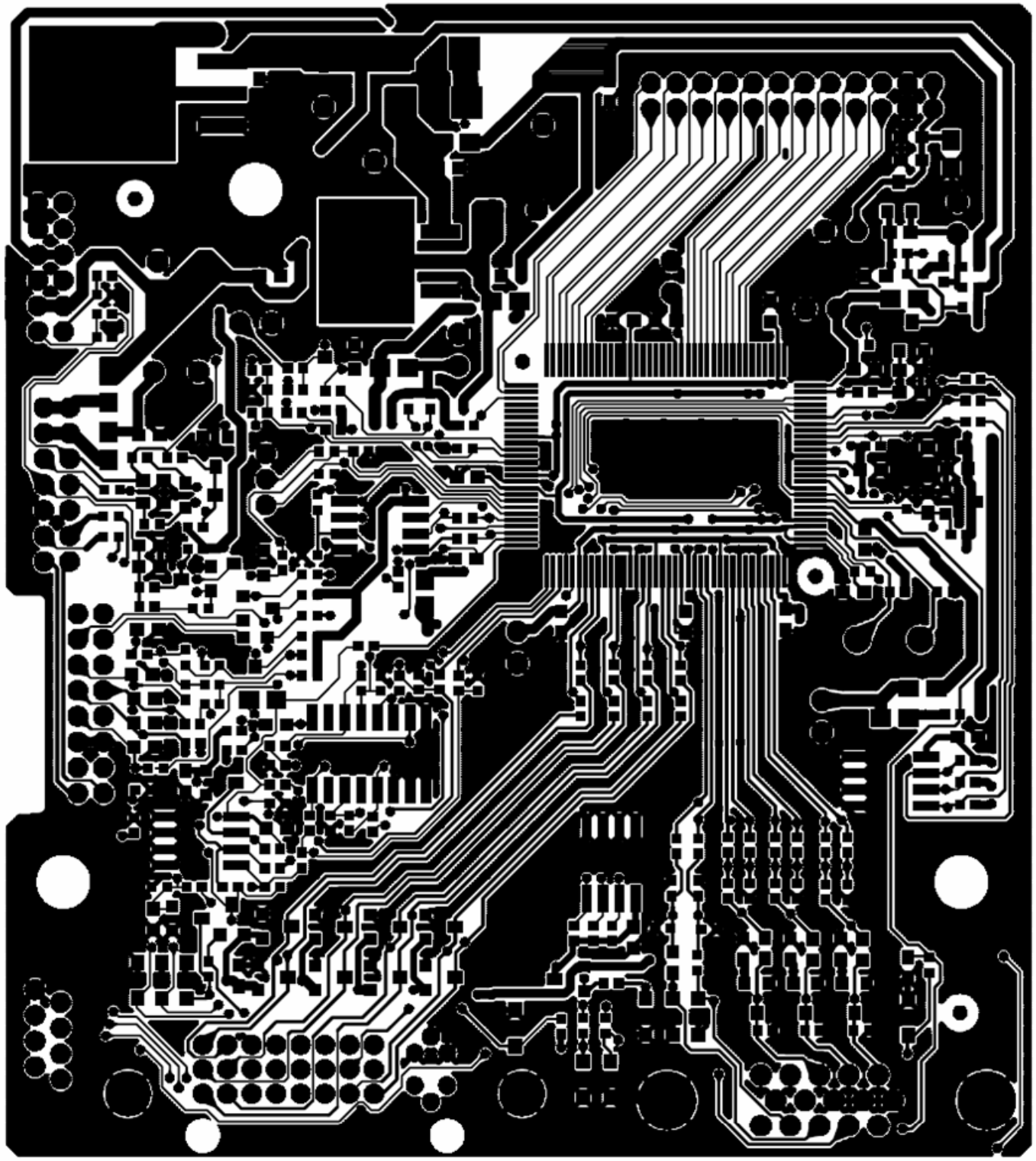
7.4 Key Board

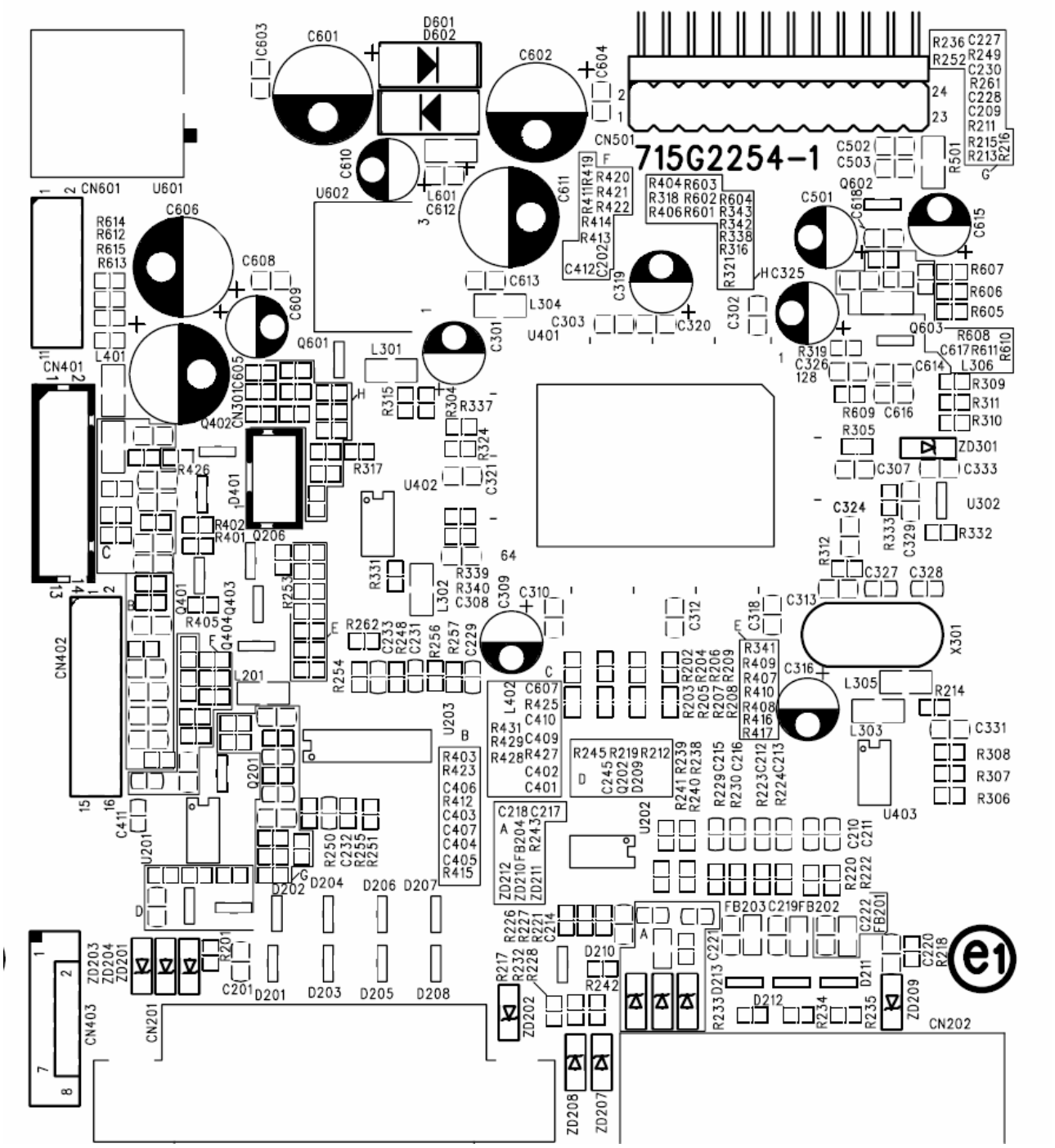


AOC EYES VALUE	Title: Key Board		
	Size: A	Document Number	Rev: 1
	Date: Thursday, June 16, 2005	Sheet 1 of 1	

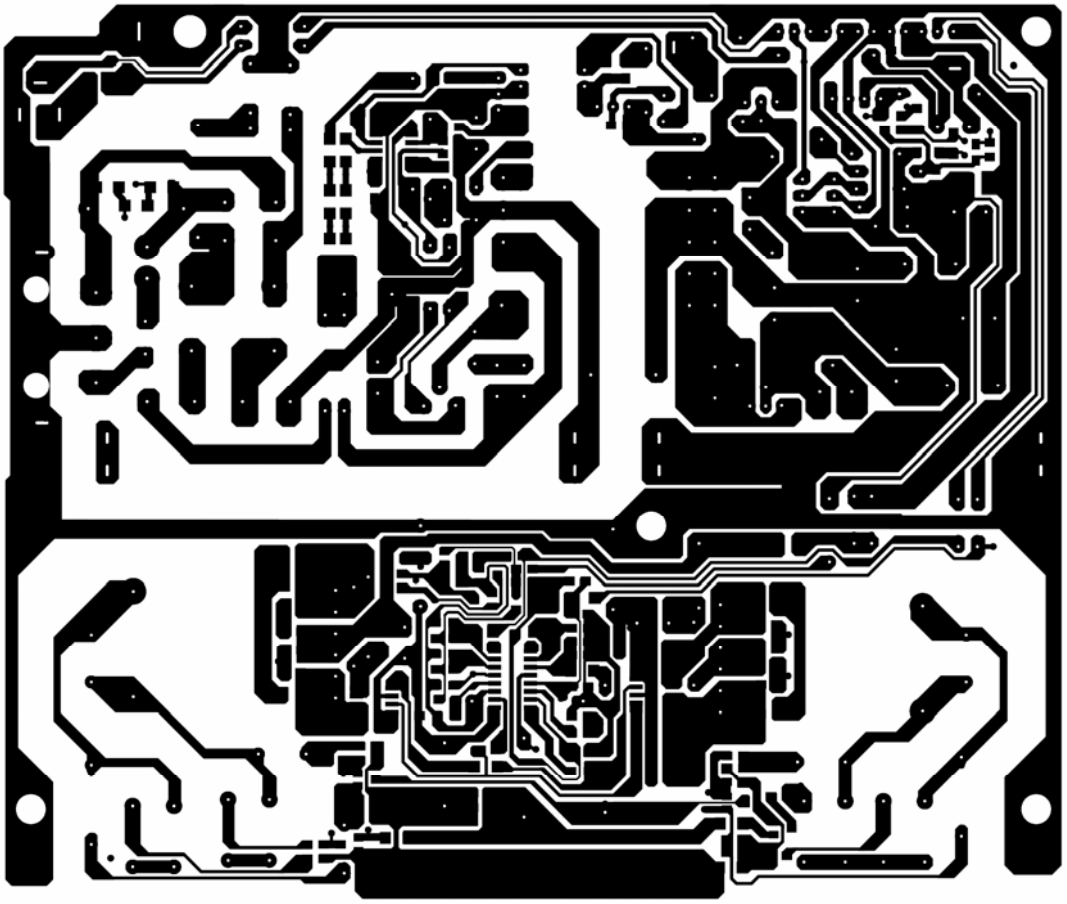
8. PCB Layout

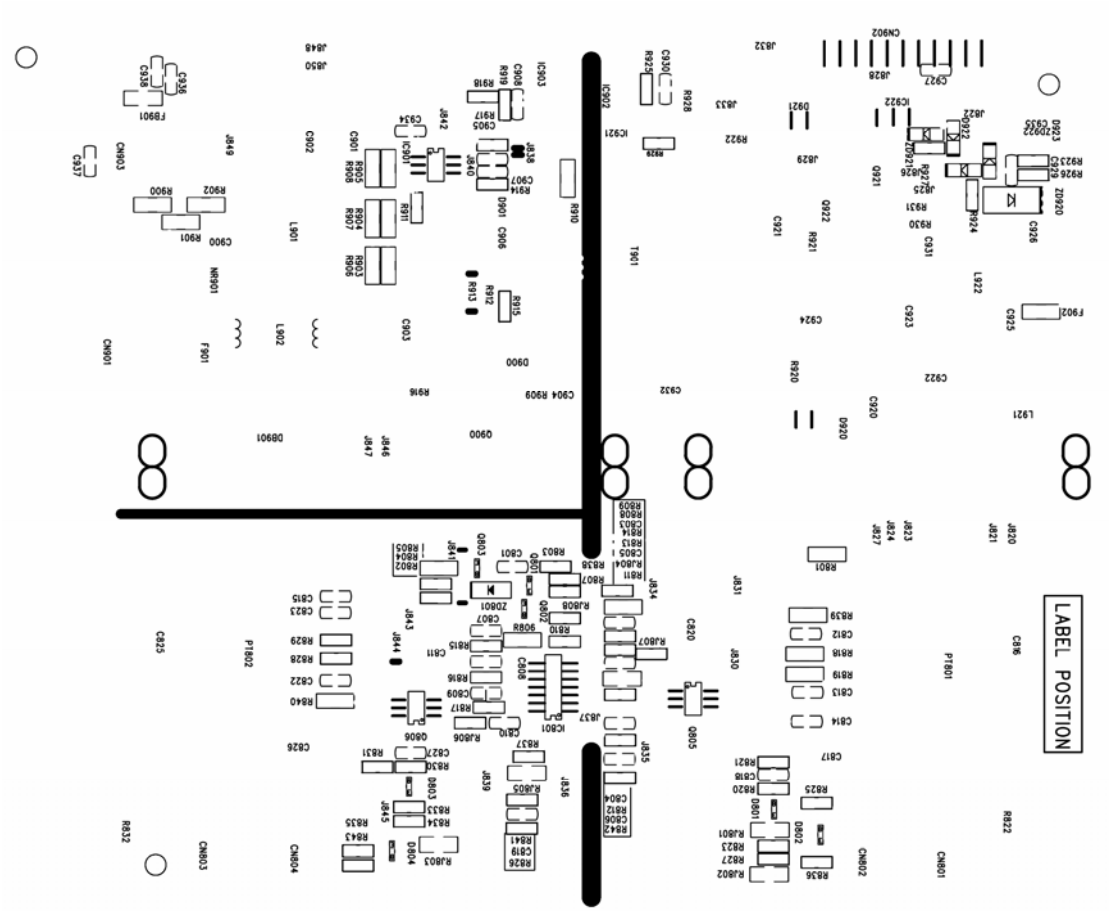
8.1 Main Board

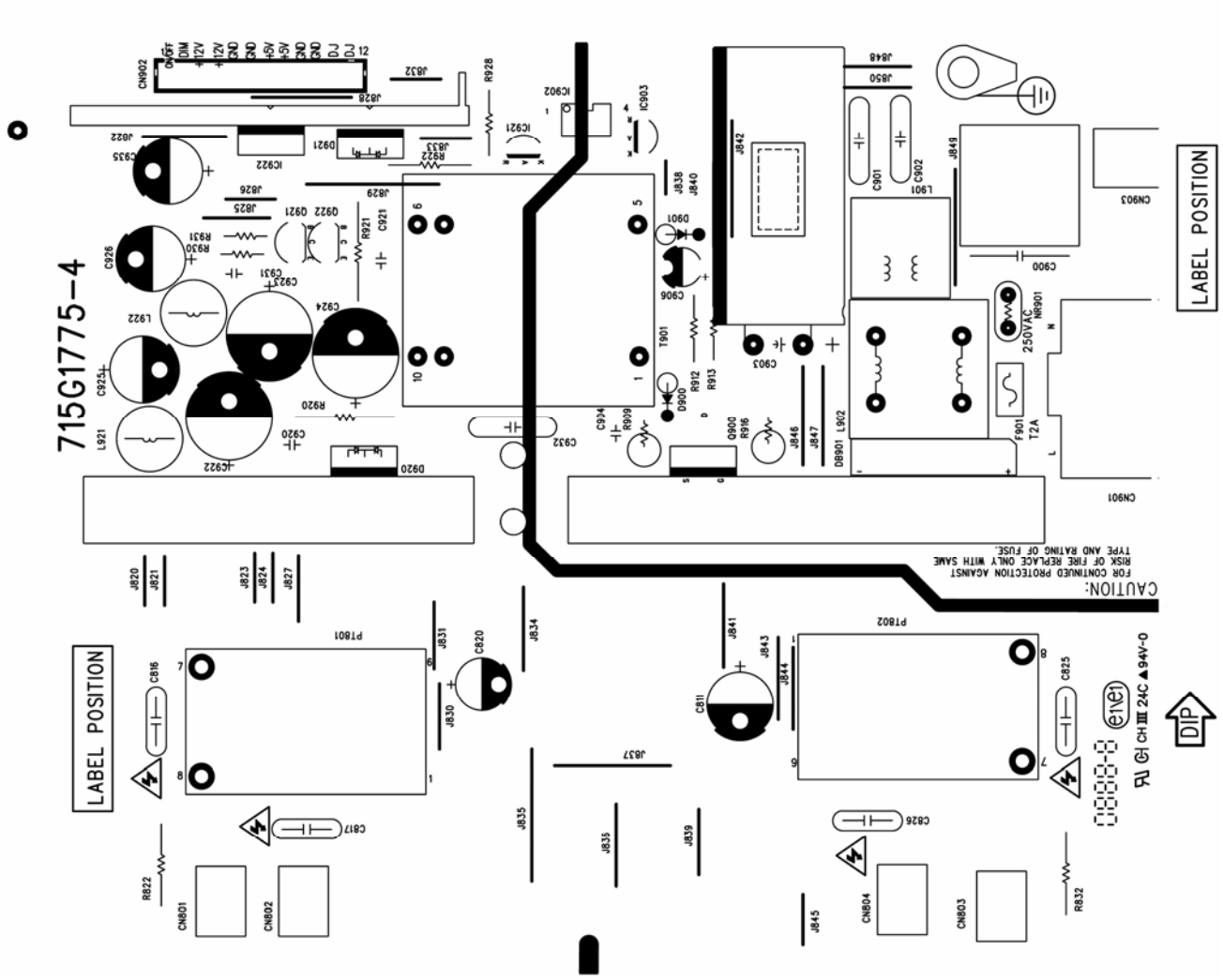



715G2254-1
CN501
CN601
U601
U602
U401
CN401
CN402
CN403
CN201
CN202
Q601
Q602
Q603
Q402
Q206
Q401
Q404
Q403
Q201
D601
D602
D401
D202
D204
D206
D207
D201
D203
D205
D208
ZD201
ZD203
ZD204
ZD205
ZD208
ZD207
ZD209
ZD210
ZD211
ZD212
U302
U403
U202
U203
X301
L201
L301
L304
L306
L401
L402
L601
L302
L303
L305
FB201
FB202
FB203
C601
C602
C606
C608
C609
C610
C611
C612
C613
C501
C615
C616
C617
C618
C614
C307
C333
C324
C329
C327
C328
C313
C316
C318
C331
C411
C201
C301
C302
C303
C319
C320
C309
C310
C312
C325
C326
R614
R612
R615
R613
R426
R402
R401
R405
R317
R315
R304
R337
R324
R321
R331
R339
R340
R308
R262
R233
R248
R231
R256
R257
R229
R254
R253
R250
R232
R255
R251
R201
R217
R232
R228
R226
R227
R221
R214
R242
R234
R235
R218
R220
R222
R211
R215
R213
R216
R501
R607
R606
R605
R608
R610
R611
R309
R311
R310
R305
R333
R332
R312
R341
R409
R407
R410
R408
R416
R417
R214
R331
R307
R306
R245
R219
R212
R241
R239
R240
R238
R223
R224
R230
R216
R404
R603
R318
R602
R406
R601
R604
R343
R342
R338
R316
R420
R421
R422
R411
R419
R414
R413
R412
C412
C202
C227
R249
C230
R261
C228
C209
C502
C503
C607
R425
C410
C409
R427
C402
C401
R431
R429
R428
C218
C217
R243
C222
C221
C220
C219
C214
C210
C211
C405
C406
C403
C407
C404
C415
C412
C232
C233
C231
C229
C308
C230
C216
C213
C212
C221
C222
C223
C224
C225
C226
C227
C228
C229
C230
C231
C232
C233
C234
C235
C236
C237
C238
C239
C240
C241
C242
C243
C244
C245
C246
C247
C248
C249
C250
C251
C252
C253
C254
C255
C256
C257
C258
C259
C260
C261
C262
C263
C264
C265
C266
C267
C268
C269
C270
C271
C272
C273
C274
C275
C276
C277
C278
C279
C280
C281
C282
C283
C284
C285
C286
C287
C288
C289
C290
C291
C292
C293
C294
C295
C296
C297
C298
C299
C300

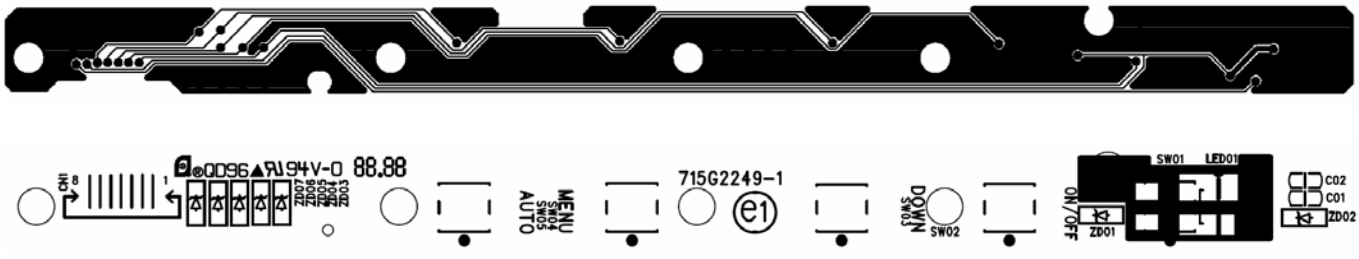
8.2 Power Board



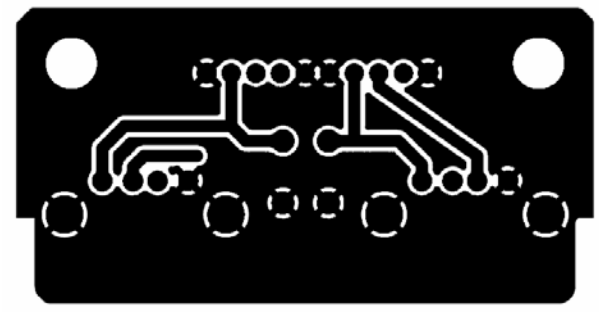


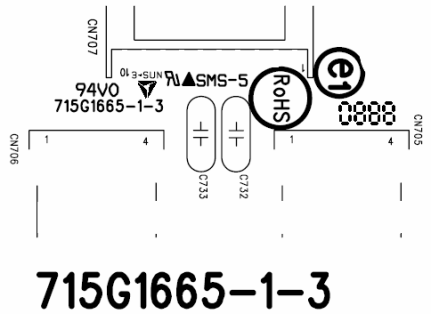

715G1775-4
LABEL POSITION
LABEL POSITION
CAUTION:
DIP

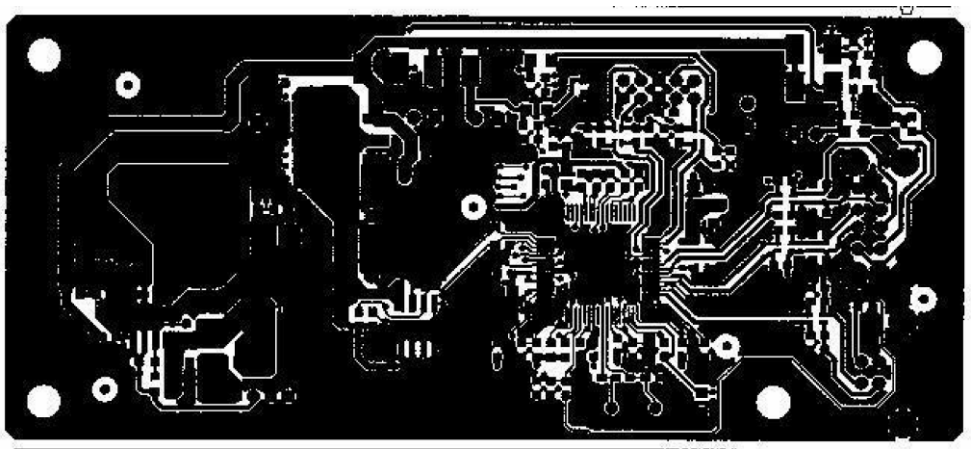
8.3 Key Board

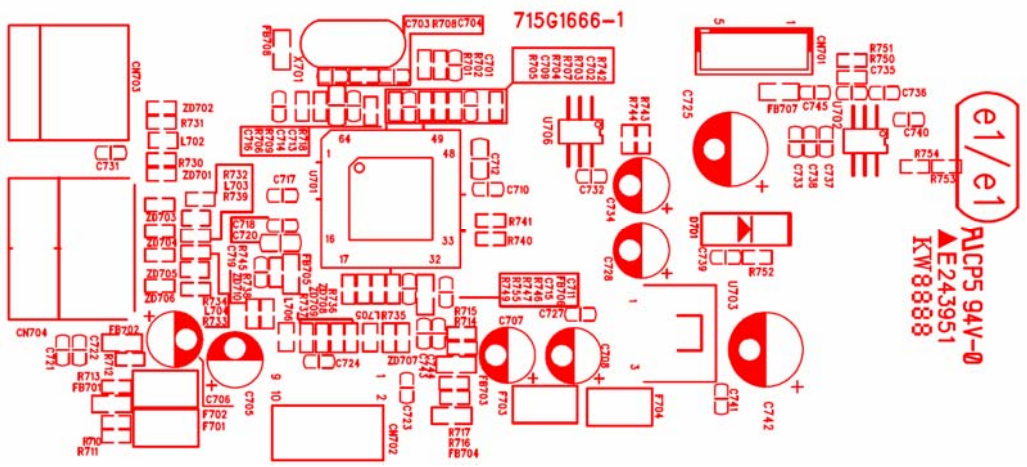

715G2249-1
MENU
AUTO
DOWN
ON/OFF
SW01
LED01

8.4 USB Board




CN707
94V0
715G1665-1-3
RoHS
CN705
CN706
C733
C732
715G1665-1-3




715G1666-1
e1/e1
AUCP5 94V-0
E243951
KW8888

9. Maintainability

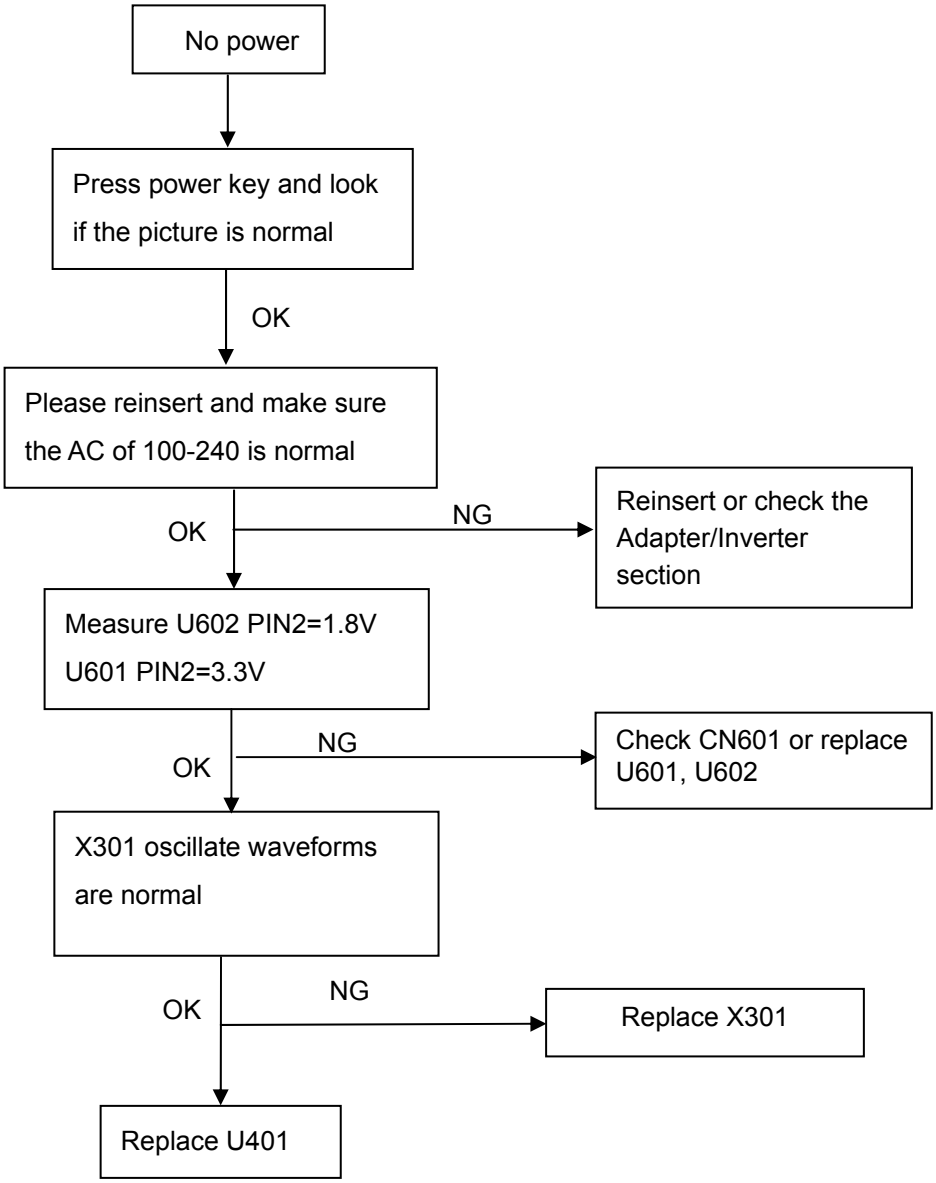
9.1 Equipments and Tools Requirement

1. Voltage meter
2. Oscilloscope
3. Pattern Generator
4. LCD Color Analyzer
5. Service Manual
6. User Manual

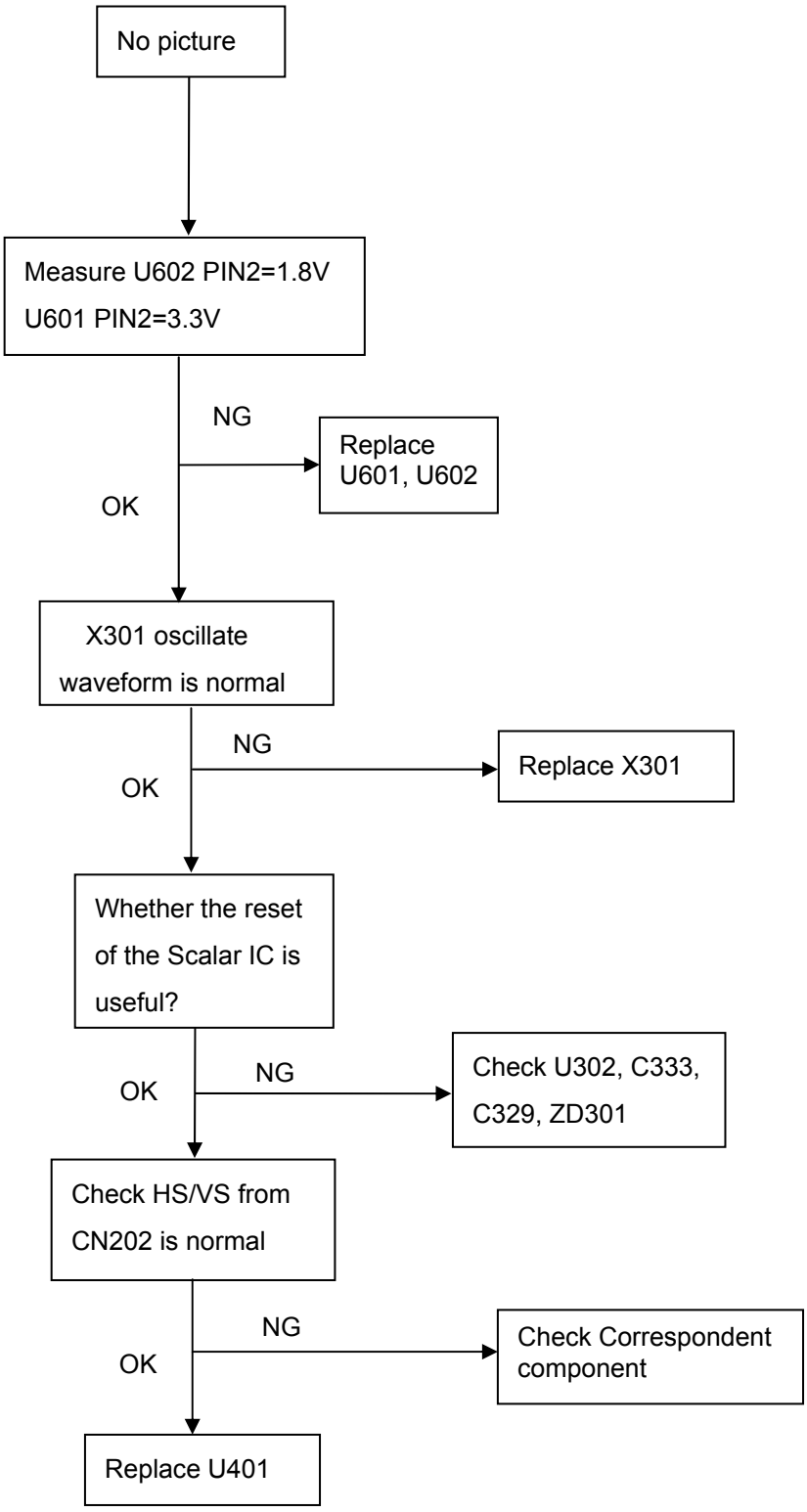
9.2 Trouble shooting

9.2.1 Main Board

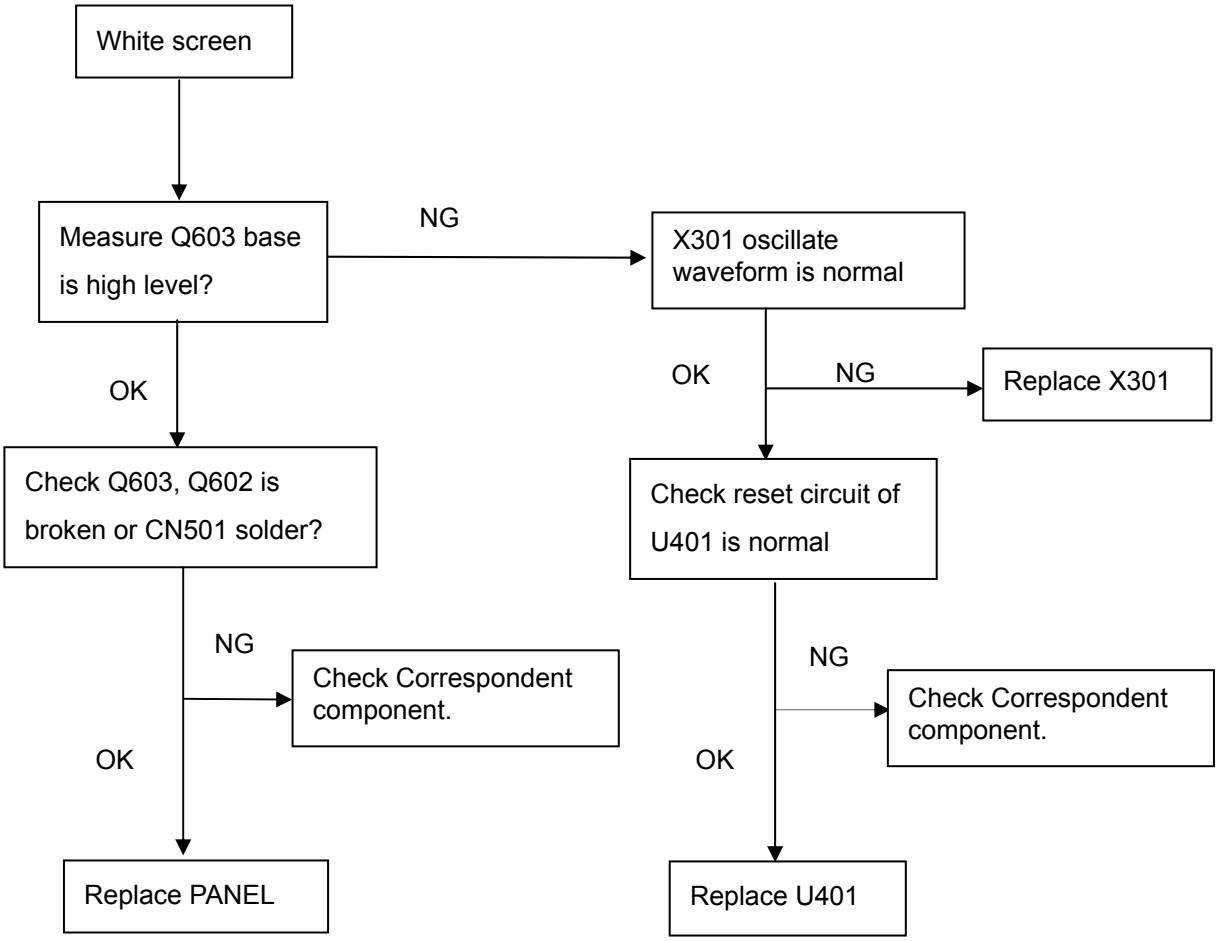
No power



No picture (LED orange)

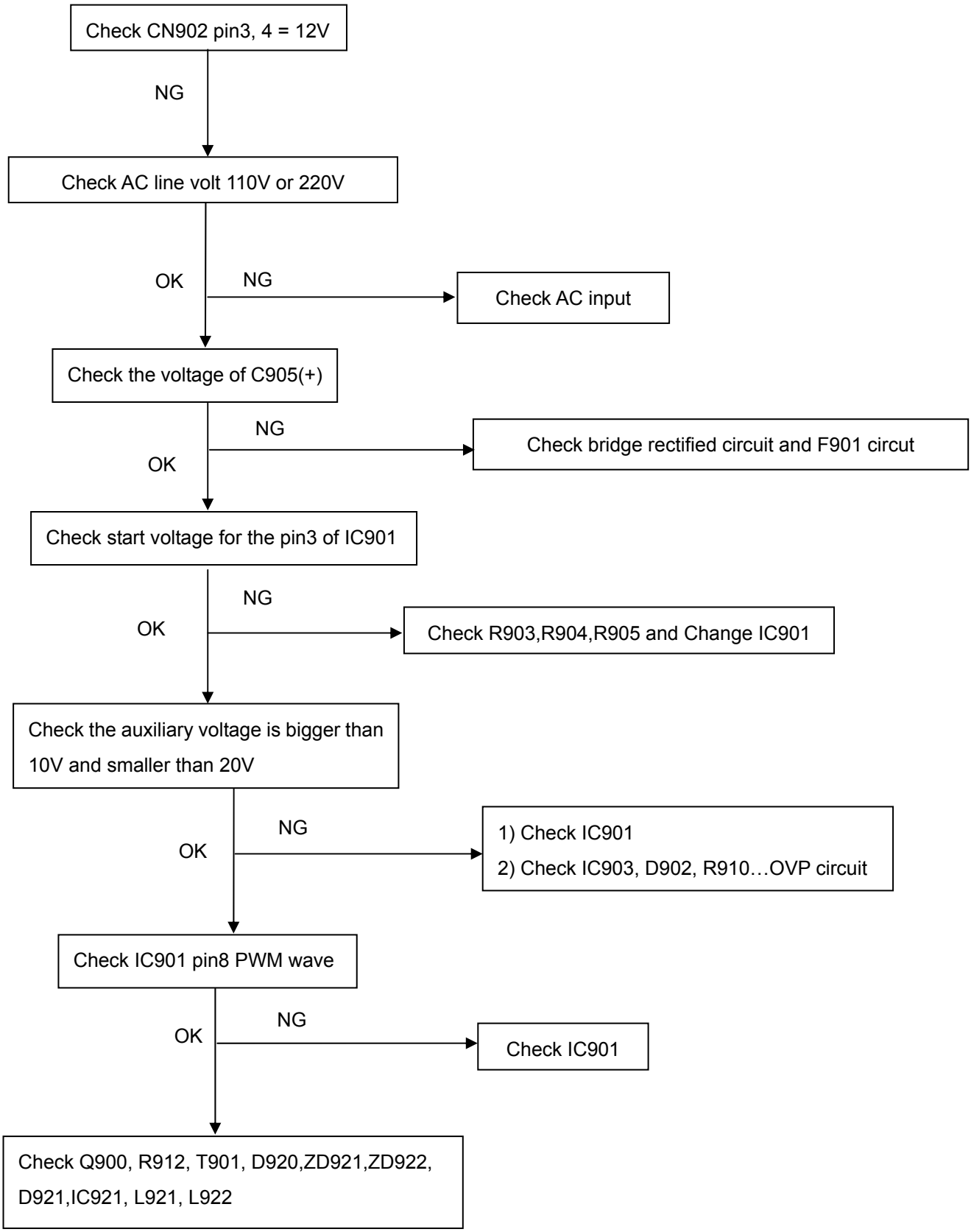


White screen

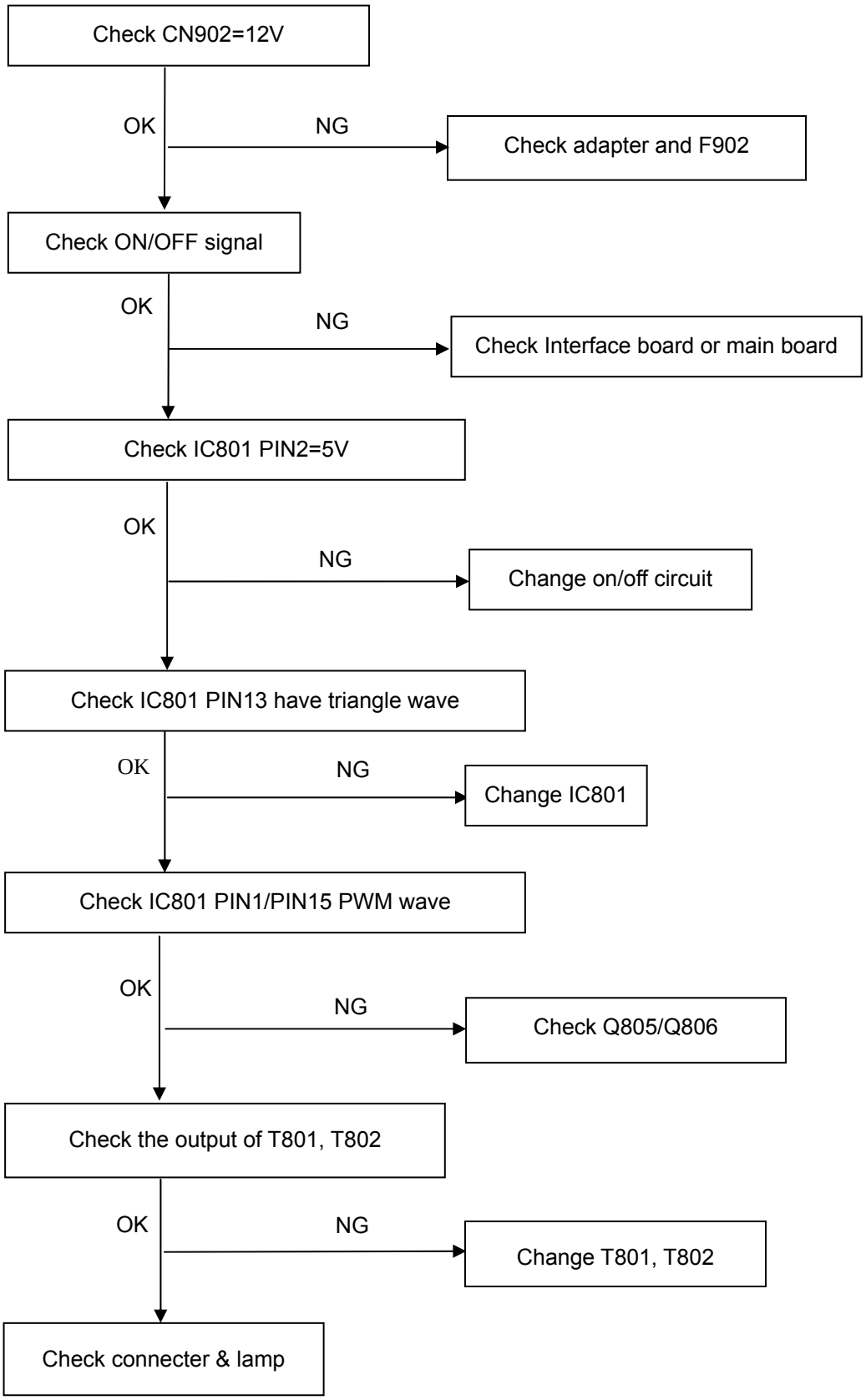


9.2.2 Power/Inverter Board

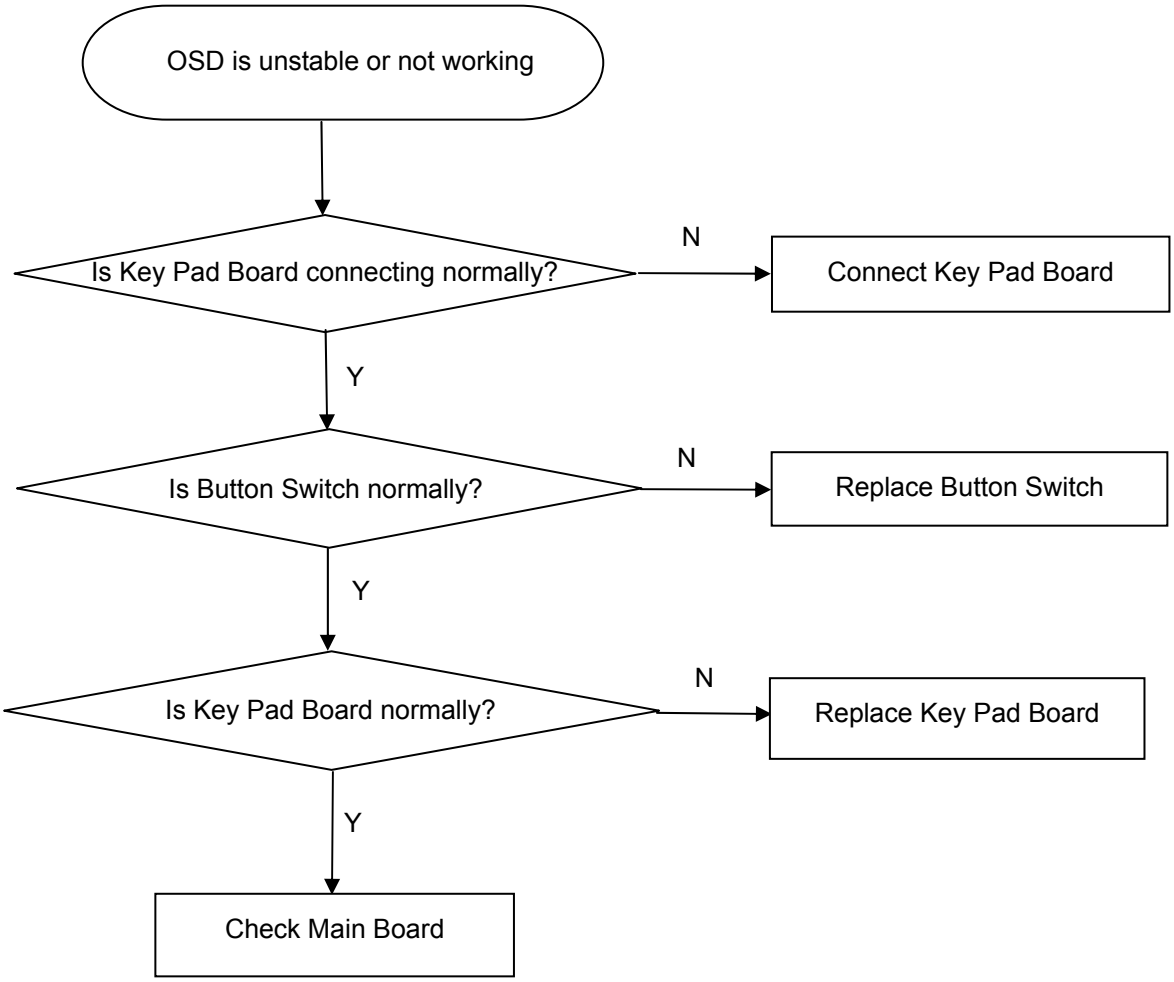
No power



No Backlight



9.2.3 Keypad Board



10. White balance, Luminance adjustment

Approximately 2 Hours should be allowed for warm up before proceeding White-Balance adjustment.

Before started adjust white balance, please setting the Minolta-CA210 **MEM. Channel 0 to 6500^{0}K** colors, **MEM. Channel 0 to 9300^{0}K** colors, **MEM. Channel 0 to 5700^{0}K** (our 9300 parameter is x=283±20, y=297±20, Y = 210 ±20 cd/m^2 ； 6500 parameter is x =313±20, y=329±20, Y = 230 ±20 cd/m^2, and 5700 parameter is x = 326 ±20, y = 349 ±20, Y = 230 ±20 cd/m^2)

How to setting MEM.channel you can reference to Minolta-CA210 user guide or simple use " **SC"** key and " **NEXT"** key to modify x, y, Y value and use **"ID"** key to modify the TEXT description Following is the procedure to do white-balance adjust

Enter into the factory mode:

Press MENU and "+" button during press Power button will activate the factory mode,

Gain adjustment:

Move cursor to "-Factory Setting-" and press MENU key to enter this sub-menu.

Move cursor to "Factory" and press MENU key.

Move cursor to " Auto Level" and press MENU key to adjust Gain and Offset automatically;

a. Adjust sRGB (6500^{0}K) color-temperature

1. Switch the Minolta-CA210 to **RGB-mode** (with press "MODE" button)
2. Switch the MEM.channel to Channel 0 (with up or down arrow on Minolta-CA210)
3. The LCD-indicator on Minolta-CA210 will show x = 313 ±20, y = 329 ±20, Y = 230 ±20 cd/m^2

b. Adjust **Color1** (9300^{0}K) color-temperature

4. Switch the Minolta-CA210 to **RGB-mode** (with press "MODE" button)
5. Switch the MEM.channel to Channel 0 (with up or down arrow on Minolta-CA210)
6. The LCD-indicator on Minolta-CA210 will show x = 283 ±20, y = 297 ±20， Y = 210 ±20 cd/m^2

c. Adjust **Color2** (5700^{0}K) color-temperature

7. Switch the Minolta-CA210 to **RGB-mode** (with press "MODE" button)
8. Switch the MEM.channel to Channel 0 (with up or down arrow on Minolta-CA210)
9. The LCD-indicator on Minolta-CA210 will show x = 326 ±20, y = 349 ±20， Y = 230 ±20 cd/m^2
10. Move cursor to "Exit/Save" sub-menu and press MENU key to save adjust value and exit.

Turn the POWER-button off to on to quit from factory mode.

Max Brightness measurement: >250 cd/㎡

Test conditions:

a. Switch to the full white pattern, in user mode main menu:
   1. Set <Color Settings> Red, Green, and Blue to the max.
   2. Set <Brightness> Brightness, Contrast to the max.

b. The Minimum brightness is: **<** 40% of Max luminance (max luminance = max contrast + max brightness)

Test conditions:

Set <Brightness> Brightness, Contrast to the min.

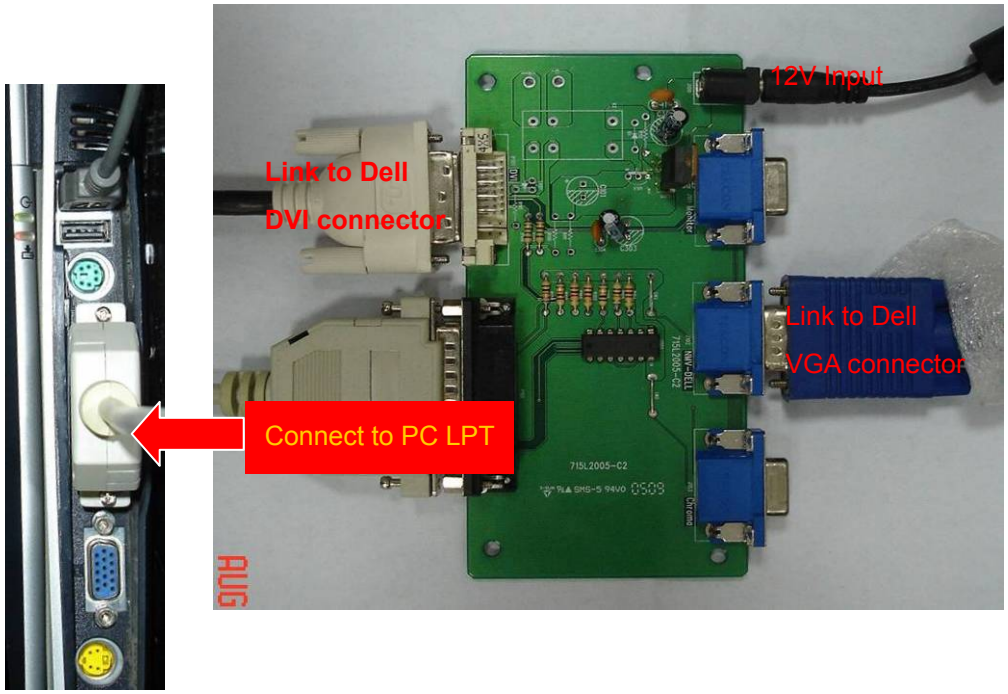
11. ISP Instruction

11.1 Software requirement and connection

Operating system requirement

(1) Microsoft windows OS. (2) 100M free hard-drive space. (3) 1 free parallel port for DDC2BI communication.

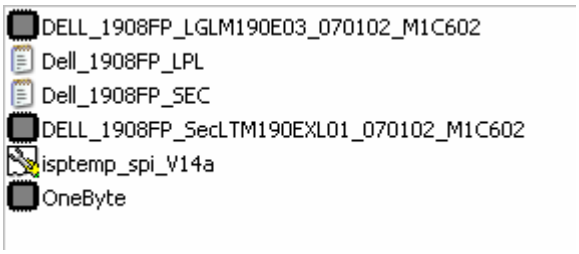
The hardware Connection



Note: VGA and DVI must not connect at the same time.

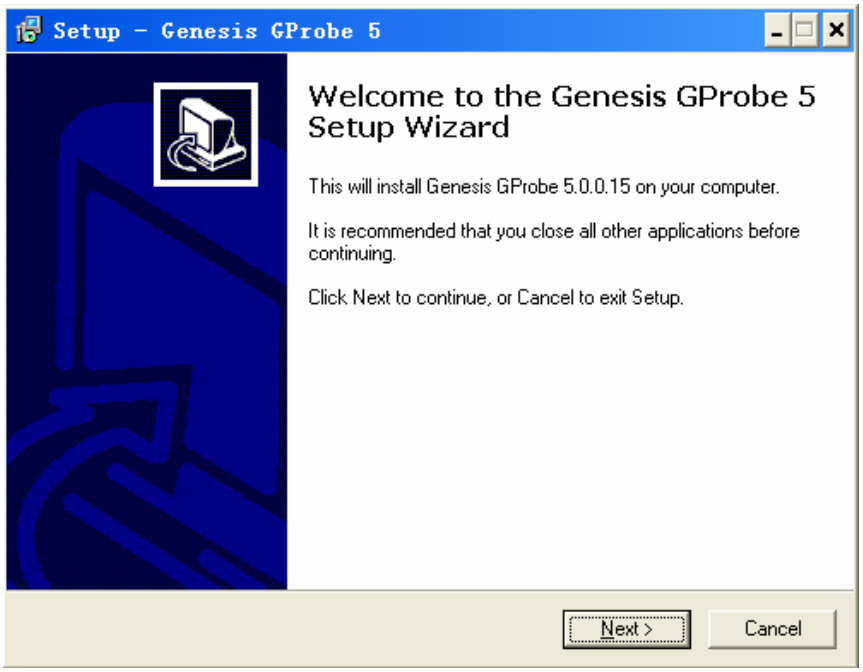
The relevant soft List

ISP_CODE

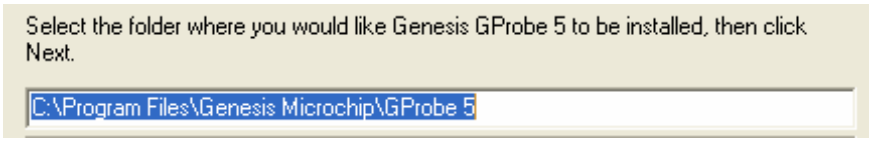


11.2 Install the software (Gprobe 5.0) for ISP Writer

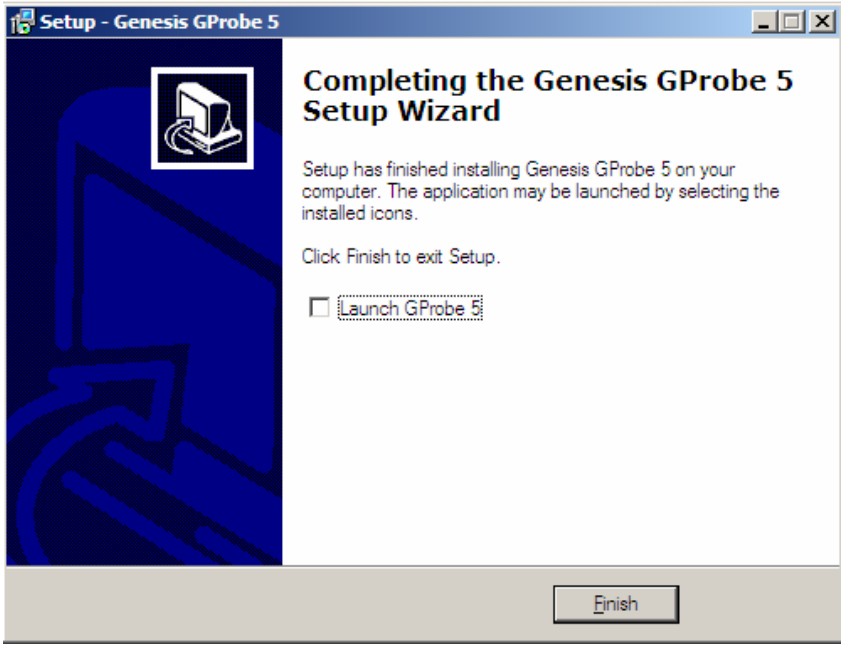
A. Double-click the Install software


Setup - Genesis GProbe 5
Welcome to the Genesis GProbe 5 Setup Wizard
This will install Genesis GProbe 5.0.0.15 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

Select the folder where you would like Genesis Gprobe 5 to be installed


Select the folder where you would like Genesis GProbe 5 to be installed, then click Next.
C:\Program Files\Genesis Microchip\GProbe 5

Completing the Genesis Gprobe 5 setup wizard

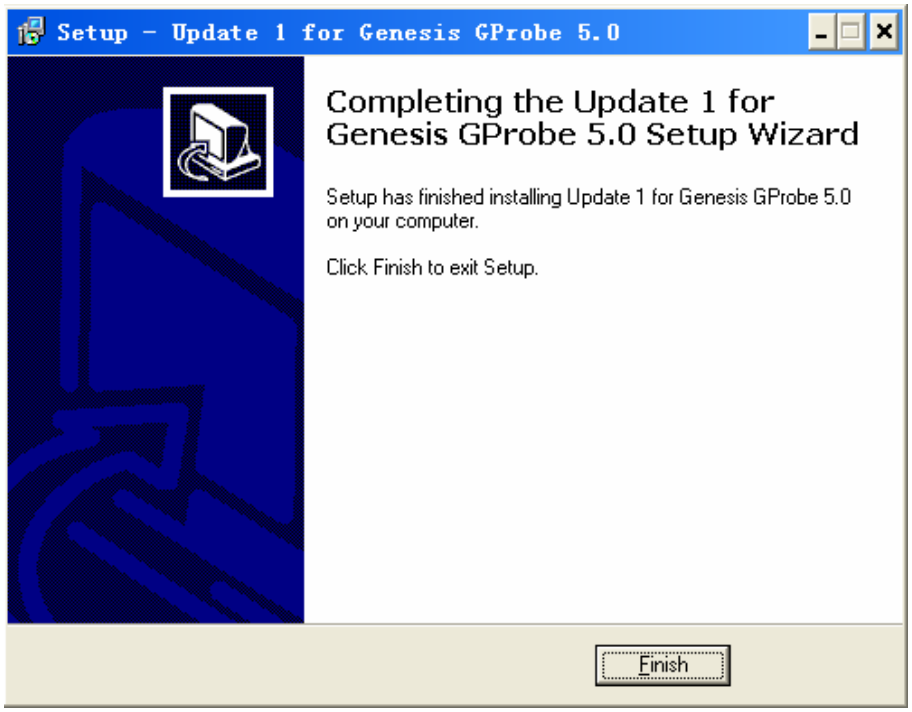

Setup - Genesis GProbe 5
Completing the Genesis GProbe 5 Setup Wizard
Setup has finished installing Genesis GProbe 5 on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Launch GProbe 5
Finish

Note: After finishing the installation, you must restart the PC.

B. Next, install the Update software GProbe5.0.0.15Update1

Setup - Update 1 for Genesis GProbe 5.0
Welcome to the Update 1 for Genesis GProbe 5.0 Setup Wizard
This will install Update 1 for Genesis GProbe 5.0.0.15 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

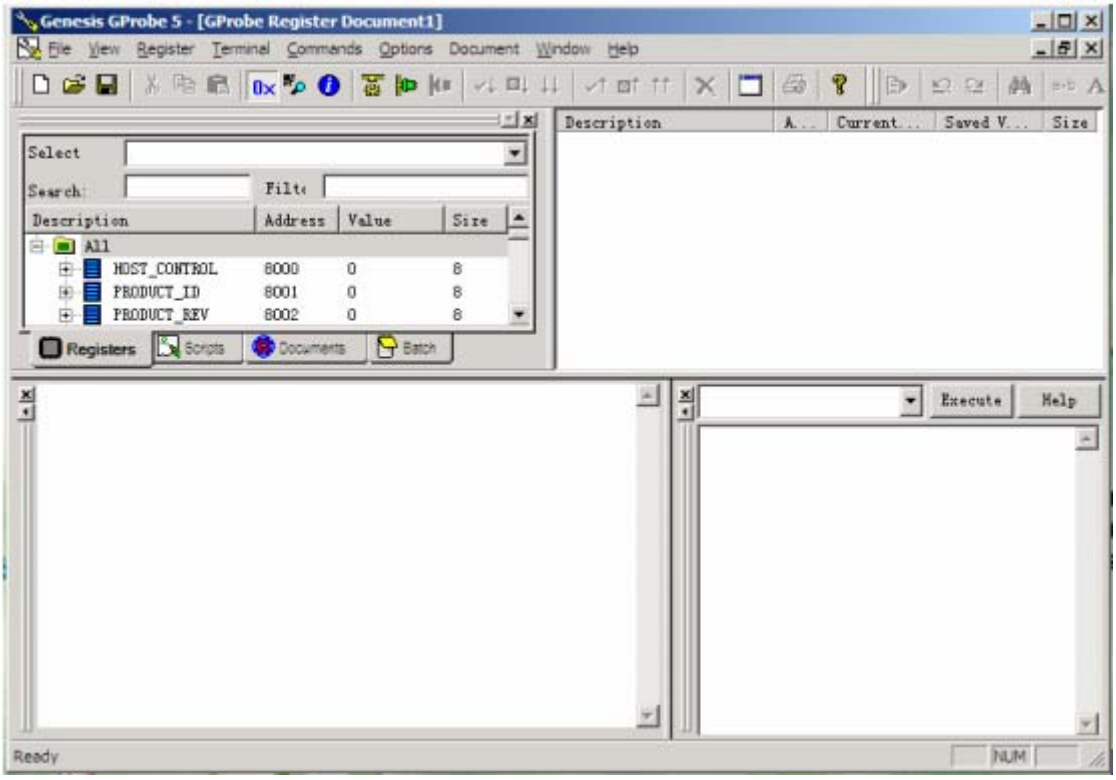
Completing the update 1 for Genesis Gprobe 5.0 setup wizard


Setup - Update 1 for Genesis GProbe 5.0
Completing the Update 1 for Genesis GProbe 5.0 Setup Wizard
Setup has finished installing Update 1 for Genesis GProbe 5.0 on your computer.
Click Finish to exit Setup.
Finish

11.3 Run program

After the installation, a short-cut icon

will appear on your desktop, double click it will run the program.

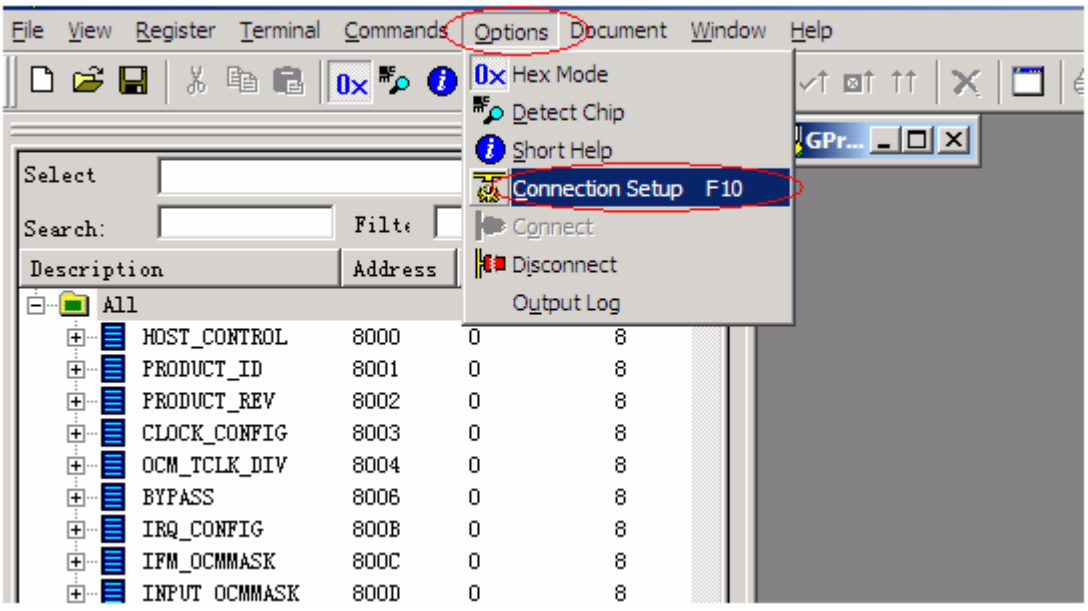


Note: Firstly, you can check the I²C normal or not by inputting the “test” in the position ,

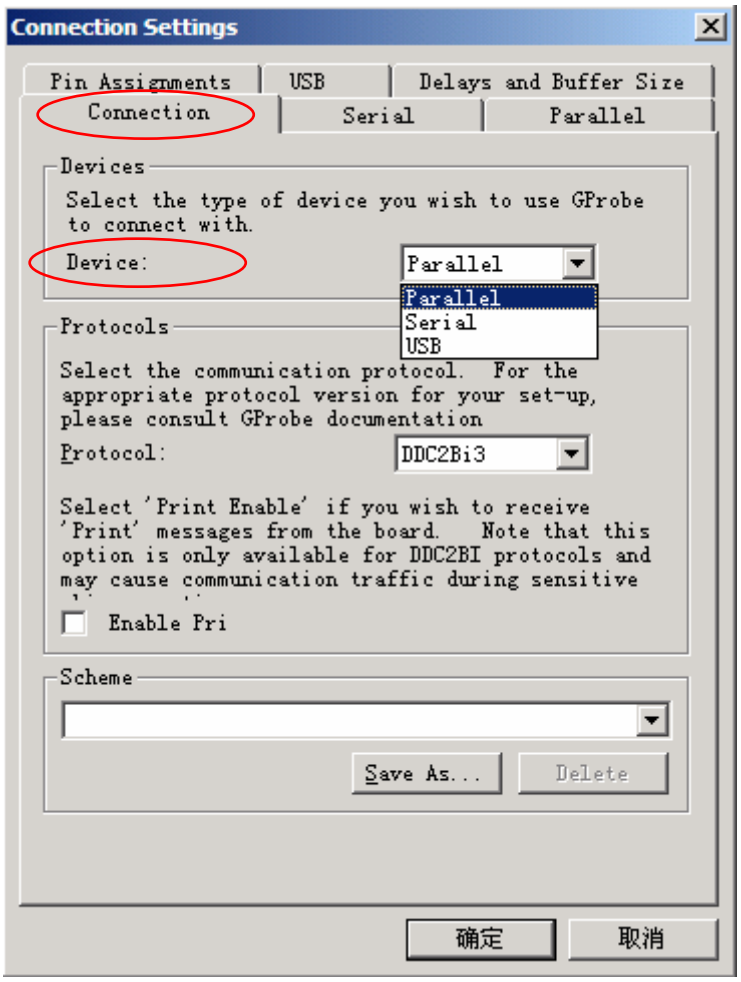
where to load MCU software. Click

, if you can see “test pass” in the blank, the I²C is OK!

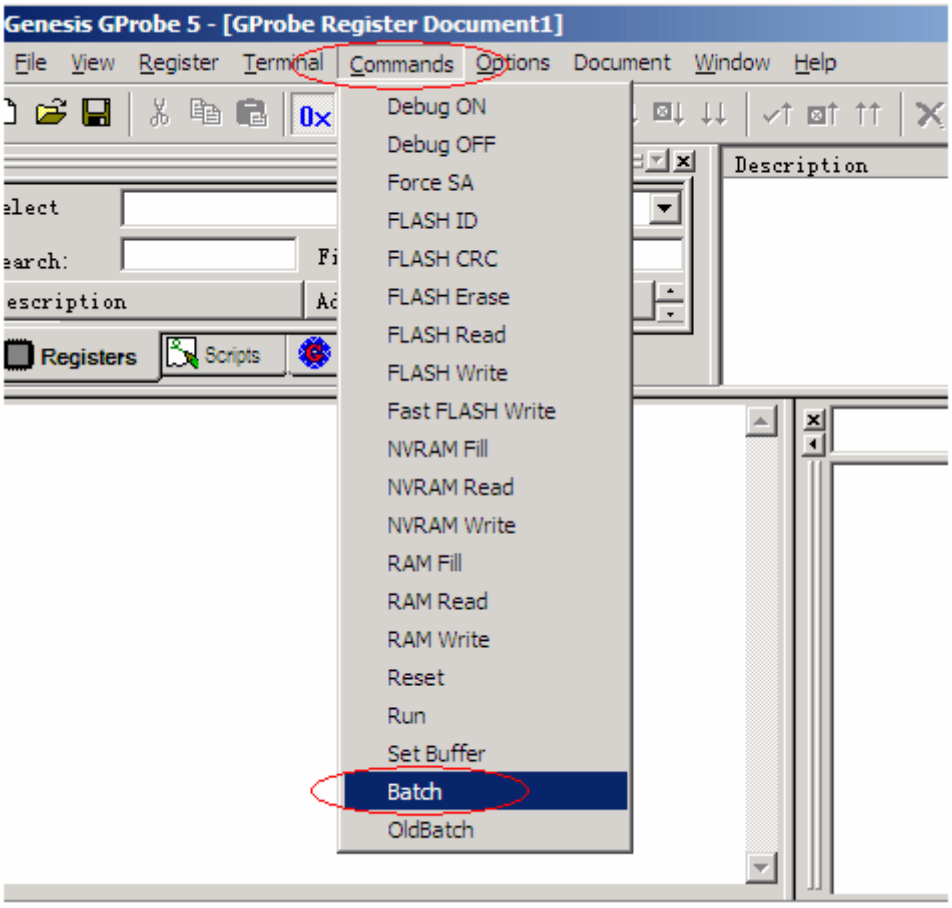
(1). Select **Options → Connection Setup F10:**



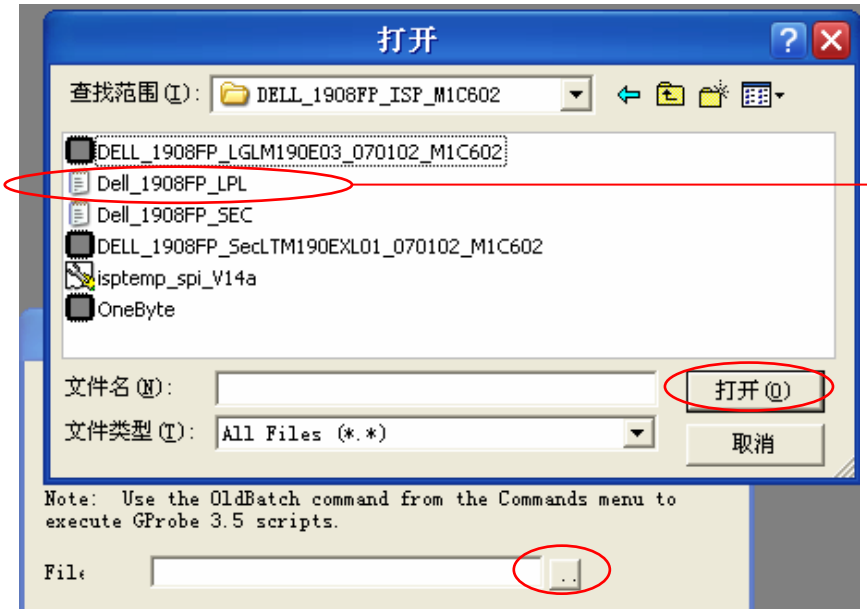
Set the **Connection Settings → Connection → Device to parallel, click OK!**



(2). Select **Commands → Batch:**

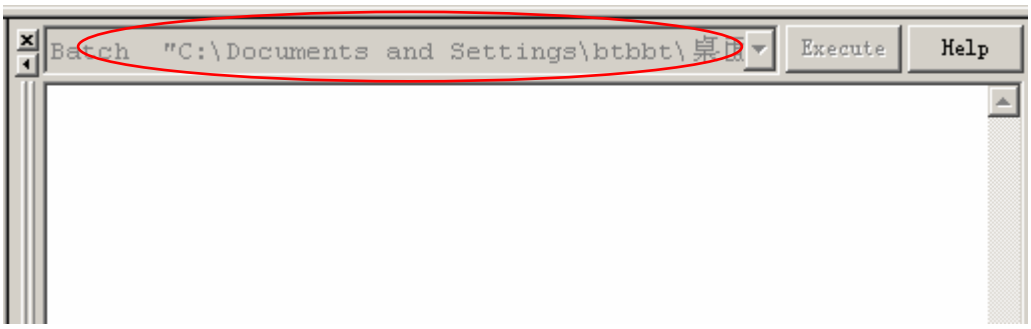


Click to select MCU software in Dell ISP_CODE, please per as the follow fig

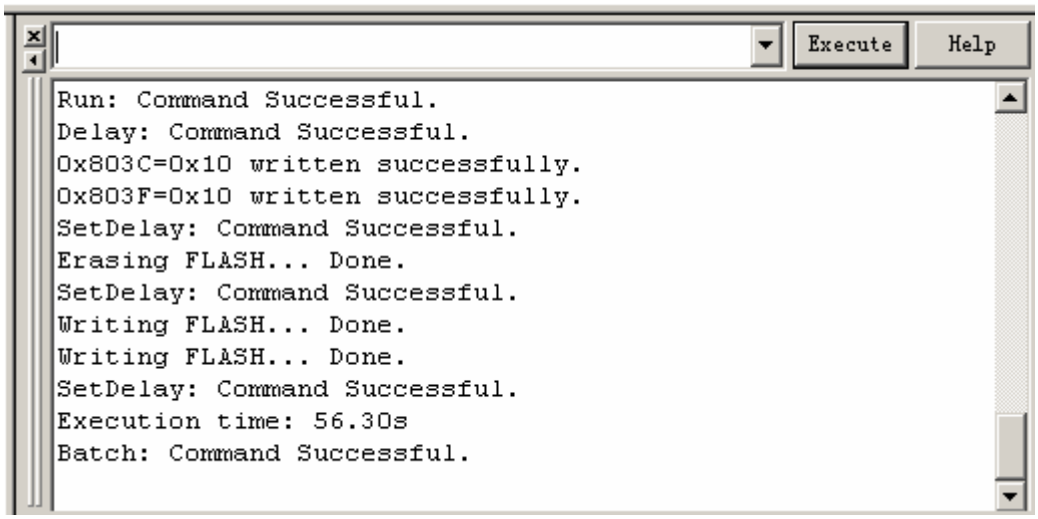


The text must be matching with the panel type of the monitor; such as if the panel used is LM190E08-TLB2 LPL. You have to choose Dell_1908FP_LPL.txt

Click open.

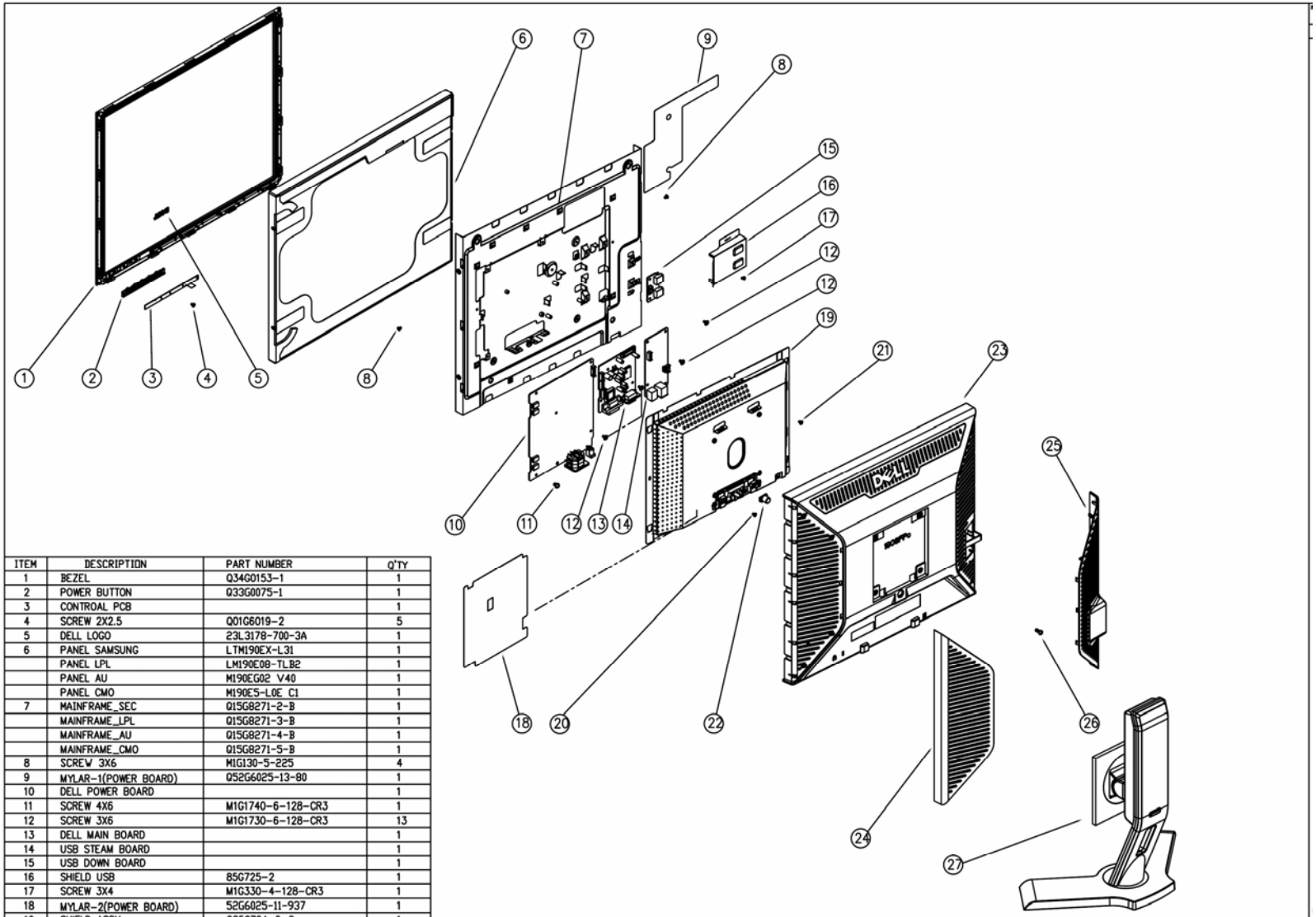


(3). Unplug the Dell AC power, until the LED indicator is off, press Enter or Execute button, when the .txt of MCU is in gray, for example Batch "C:\Documents and Settings\, re-plug Dell AC power, Writer is in progress.



(4). When appear the “Batch: Command Successful”, Writer is complete!

12. Exploded View



ITEM	DESCRIPTION	PART NUMBER	Q'TY
1	BEZEL	Q34G0153-1	1
2	POWER BUTTON	Q33G0075-1	1
3	CONTROAL PCB		1
4	SCREW 2X2.5	Q01G6019-2	5
5	DELL LOGO	23L3178-700-3A	1
6	PANEL SAMSUNG	LTM190EX-L31	1
	PANEL LPL	LM190E08-TLB2	1
	PANEL AU	M190EG02 V40	1
	PANEL CMO	M190E5-L0E C1	1
7	MAINFRAME_SEC	Q15G8271-2-B	1
	MAINFRAME_LPL	Q15G8271-3-B	1
	MAINFRAME_AU	Q15G8271-4-B	1
	MAINFRAME_CMO	Q15G8271-5-B	1
8	SCREW 3X6	M1G130-5-225	4
9	MYLAR-1(POWER BOARD)	Q52G6025-13-80	1
10	DELL POWER BOARD		1
11	SCREW 4X6	M1G1740-6-128-CR3	1
12	SCREW 3X6	M1G1730-6-128-CR3	13
13	DELL MAIN BOARD		1
14	USB STEAM BOARD		1
15	USB DOWN BOARD		1
16	SHIELD USB	85G725-2	1
17	SCREW 3X4	M1G330-4-128-CR3	1
18	MYLAR-2(POWER BOARD)	52G6025-11-937	1
19	SHIELD ASSY	Q85G724-2-C	1
20	SCREW 3X4	M1G130-4-120-CR3	3
21	SCREW 3X5	M1G130-5-120-CR3	2
22	BUTTON RELEASE	33G4885-1	1
23	REAR COVER	Q34G0154-1	1
24	REAR VENT LEFT	34G1757-1	1
25	REAR VENT RIGHT	34G1758-1	1
26	SCREW M3X6	M1G2940-10-225	4
27	STAND ASSY	Q37G0021-2	1

13. BOM List

T96GGCHKFDDGDP

Location	Part Number	Description
	012G6212 2	RUBBER PAD
	023G3178700 3A	LOGO
	026G 800700 6A	S/N LABEL
	033G4885 VH L	BUTTON RELEASE
	034G1757 VH B	REAR VENT LEFT
	034G1758 VH B	REAR VENT RIGHT
	044G6002834 5A GP	PAPER BOARD
	044G9003 92	CORNER PAPER
	044G9003115	CORNER PAPER
	045G 88609 26	EPE BAG FOR BASE
	045G 88609 27	EPE BAG FOR MONITOR
	052G 1186	SMALL TAPE
	052G6020 2DEO	PROTECT FILM
	052G6022 1500	SMALL TAPE
	052G6025 11936	MYLAR
	070GHDCP500HDC	HDCP CODE
E089C	089G 175517 G	USB CABLE
E089B	089G 728GAA 2D	SIGNAL CABLE
E089D	089G174EGAA 1	DVI CABLE
E089A	089G402A18NYHD	POWER CORD
	0M1G 130 4120	SCREW M3X5
	0M1G 130 5120	SCREW
	0M1G 130 6225 CR3	SCREW
	0M1G 330 4128 CR3	SCREW
	0M1G1730 6128 CR3	SCREW
	0M1G1740 6128 CR3	SCREW
	0M1G1830 5120	SCREW
	0M1G2940 10225 CR3	SCREW
	0Q1G6019 1	SCREW
E750L	750GLG90E8B21N	PANEL LCD LM190E08-TLB2 LPL
	CBPC6GGCDGQ	MAIN BOARD
CN403	033G8019 8C	FPC/FFC CONN
CN601	033G8027 12	WAFER 2*6P 2.0MM R/A
CN401	033G8027 14	WAFER 14P 2.0MM DIP DUAL ROW
CN501	033G8043 24 BH W	CONNECTOR
	040G 457624 1B	LABEL-CPU
	040G 45762412B	CBPC LABEL

C601	067G215L221 4N	KY25VB220-M-L8*11.5MM
C602	067G215L221 4N	KY25VB220-M-L8*11.5MM
C611	067G215V221 4N	KY25VB220-M-CC3 8*11.5MM
C615	067G215Y2207NV	KY50VB22M-CC3 5*11
C610	067G215Y2207NV	KY50VB22M-CC3 5*11
C501	067G215Y2207NV	KY50VB22M-CC3 5*11
C325	067G215Y2207NV	KY50VB22M-CC3 5*11
C319	067G215Y2207NV	KY50VB22M-CC3 5*11
C316	067G215Y2207NV	KY50VB22M-CC3 5*11
C309	067G215Y2207NV	KY50VB22M-CC3 5*11
C301	067G215Y2207NV	KY50VB22M-CC3 5*11
CN202	088G 35315F H	D-SUB 15PIN
CN201	088G 35424F H	DVI CONNECTOR 24PIN
X301	093G 22 53	CRYSTAL 14.318MHZHC-49US
U401	056G 562 98	GM5626H-LF-AA
U601	056G 563 7	IC AIC1084-33PMTR-R AIC
U602	056G 563 31	AI1117D-1.8-EI
U203	056G 614 1	74HC4052D S016 PHLIPS
U302	056G 643 13	G691L400T73UF SOT-23 GMT
U202	056G1133 34	M24C02-WMN6TP
U201	056G1133 34	M24C02-WMN6TP
U403	056G1133 56	M24C16-WMN6TP
U402	056G1133 81	SST25LF020A-33-4C-SAE
Q603	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q601	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q404	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q403	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q201	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q202	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q206	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q602	057G 763 1	A03401 SOT23 BY AOS(A1)
R615	061G0402000	RST CHIPR 0 OHM +-5% 1/16W
R614	061G0402000	RST CHIPR 0 OHM +-5% 1/16W
R606	061G0402000	RST CHIPR 0 OHM +-5% 1/16W
R404	061G0402000	RST CHIPR 0 OHM +-5% 1/16W
R331	061G0402000	RST CHIPR 0 OHM +-5% 1/16W
R243	061G0402000	RST CHIPR 0 OHM +-5% 1/16W
R202	061G0402100	RST CHIPR 10 OHM +-5% 1/16W
R203	061G0402100	RST CHIPR 10 OHM +-5% 1/16W
R204	061G0402100	RST CHIPR 10 OHM +-5% 1/16W

R205	061G0402100	RST CHIPR 10 OHM +-5% 1/16W
R206	061G0402100	RST CHIPR 10 OHM +-5% 1/16W
R207	061G0402100	RST CHIPR 10 OHM +-5% 1/16W
R208	061G0402100	RST CHIPR 10 OHM +-5% 1/16W
R209	061G0402100	RST CHIPR 10 OHM +-5% 1/16W
R301	061G0402100	RST CHIPR 10 OHM +-5% 1/16W
R416	061G0402100 2F	RST CHIPR 10KOHM +-1% 1/16W
R417	061G0402100 2F	RST CHIPR 10KOHM +-1% 1/16W
R309	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R310	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R311	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R334	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R335	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R339	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R340	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R407	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R408	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R222	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R224	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R228	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R230	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R232	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R248	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R249	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R250	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R251	061G0402101	RST CHIPR 100 OHM +-5% 1/16W
R242	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W
R329	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W
R602	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W
R603	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W
R604	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W
R431	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W
R418	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W
R341	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W
R262	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W
R261	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W
R245	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W
R214	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W
R201	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W
R211	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W

R608	061G0402104	RST CHIPR 100 KOHM +-5% 1/16W
R411	061G0402220 0F	RST CHIPR 220 OHM +-1% 1/16W
R412	061G0402220 0F	RST CHIPR 220 OHM +-1% 1/16W
R413	061G0402220 0F	RST CHIPR 220 OHM +-1% 1/16W
R414	061G0402220 0F	RST CHIPR 220 OHM +-1% 1/16W
R420	061G0402220 2F	RST CHIPR 22KOHM +-1% 1/16W
R421	061G0402220 2F	RST CHIPR 22KOHM +-1% 1/16W
R238	061G0402221	RST CHIPR 220 OHM +-5% 1/16W
R239	061G0402221	RST CHIPR 220 OHM +-5% 1/16W
R415	061G0402221	RST CHIPR 220 OHM +-5% 1/16W
R240	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W
R241	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W
R217	061G0402223	RST CHIPR 22 KOHM +-5% 1/16W
R422	061G0402300 2F	RST CHIPR 30KOHM +-1% 1/16W
R419	061G0402300 2F	RST CHIPR 30KOHM +-1% 1/16W
R215	061G0402330	RST CHIPR 33 OHM +-5% 1/16W
R216	061G0402330	RST CHIPR 33 OHM +-5% 1/16W
R257	061G0402330	RST CHIPR 33 OHM +-5% 1/16W
R256	061G0402330	RST CHIPR 33 OHM +-5% 1/16W
R218	061G0402333	RST CHIPR 33 KOHM +-5% 1/16W
R423	061G0402471	RST CHIPR 470 OHM +-5% 1/16W
R308	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R307	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R306	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R305	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R253	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R252	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R236	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R227	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R226	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R219	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R213	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R212	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R319	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R605	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R601	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R424	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R410	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R409	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R324	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W

R323	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R318	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R317	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R316	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R315	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W
R609	061G0402473	RST CHIPR 47 KOHM +-5% 1/16W
R235	061G0402750	RST CHIPR 75 OHM +-5% 1/16W
R234	061G0402750	RST CHIPR 75 OHM +-5% 1/16W
R233	061G0402750	RST CHIPR 75 OHM +-5% 1/16W
R229	061G0402750	RST CHIPR 75 OHM +-5% 1/16W
R223	061G0402750	RST CHIPR 75 OHM +-5% 1/16W
R220	061G0402750	RST CHIPR 75 OHM +-5% 1/16W
R302	061G0603249 0F	RST CHIPR 249 OHM +-1% 1/10W
R501	061G0805750	RST CHIPR 75 OHM +-5% 1/8W
C212	065G040210312T	CAP 0402 10NF K 16V X7R TAIYO YUDEN
C217	065G0402220 31	CHIP 22PF 50V NPO
C218	065G0402220 31	CHIP 22PF 50V NPO
C230	065G0402330 31	33PF +-50% 50V NPO
C229	065G0402330 31	33PF +-50% 50V NPO
C228	065G0402330 31	33PF +-50% 50V NPO
C327	065G0402330 31	33PF +-50% 50V NPO
C233	065G0402330 31	33PF +-50% 50V NPO
C232	065G0402330 31	33PF +-50% 50V NPO
C231	065G0402330 31	33PF +-50% 50V NPO
C328	065G0402470 31	MLCC 0402 CAP 47PF J 50V NPO
C210	065G0402473 12	CHIP 0.047UF 16V X7R
C211	065G0402473 12	CHIP 0.047UF 16V X7R
C213	065G0402473 12	CHIP 0.047UF 16V X7R
C215	065G0402473 12	CHIP 0.047UF 16V X7R
C216	065G0402473 12	CHIP 0.047UF 16V X7R
C407	065G0603102 32	1000PF +-10% 50V X7R
C406	065G0603102 32	1000PF +-10% 50V X7R
C405	065G0603102 32	1000PF +-10% 50V X7R
C404	065G0603102 32	1000PF +-10% 50V X7R
C403	065G0603102 32	1000PF +-10% 50V X7R
C317	065G0603104 12	CER2 0603 X7R 16V 100N P
C314	065G0603104 12	CER2 0603 X7R 16V 100N P
C313	065G0603104 12	CER2 0603 X7R 16V 100N P
C312	065G0603104 12	CER2 0603 X7R 16V 100N P
C311	065G0603104 12	CER2 0603 X7R 16V 100N P

C310	065G0603104 12	CER2 0603 X7R 16V 100N P
C308	065G0603104 12	CER2 0603 X7R 16V 100N P
C219	065G0603104 12	CER2 0603 X7R 16V 100N P
C209	065G0603104 12	CER2 0603 X7R 16V 100N P
C202	065G0603104 12	CER2 0603 X7R 16V 100N P
C201	065G0603104 12	CER2 0603 X7R 16V 100N P
C618	065G0603104 12	CER2 0603 X7R 16V 100N P
C613	065G0603104 12	CER2 0603 X7R 16V 100N P
C612	065G0603104 12	CER2 0603 X7R 16V 100N P
C608	065G0603104 12	CER2 0603 X7R 16V 100N P
C604	065G0603104 12	CER2 0603 X7R 16V 100N P
C603	065G0603104 12	CER2 0603 X7R 16V 100N P
C502	065G0603104 12	CER2 0603 X7R 16V 100N P
C408	065G0603104 12	CER2 0603 X7R 16V 100N P
C401	065G0603104 12	CER2 0603 X7R 16V 100N P
C333	065G0603104 12	CER2 0603 X7R 16V 100N P
C332	065G0603104 12	CER2 0603 X7R 16V 100N P
C330	065G0603104 12	CER2 0603 X7R 16V 100N P
C318	065G0603104 12	CER2 0603 X7R 16V 100N P
C320	065G0603104 12	CER2 0603 X7R 16V 100N P
C321	065G0603104 12	CER2 0603 X7R 16V 100N P
C322	065G0603104 12	CER2 0603 X7R 16V 100N P
C323	065G0603104 12	CER2 0603 X7R 16V 100N P
C324	065G0603104 12	CER2 0603 X7R 16V 100N P
C326	065G0603104 12	CER2 0603 X7R 16V 100N P
C214	065G0603104 12	CER2 0603 X7R 16V 100N P
C227	065G0603104 12	CER2 0603 X7R 16V 100N P
C222	065G0603104 12	CER2 0603 X7R 16V 100N P
C221	065G0603104 12	CER2 0603 X7R 16V 100N P
C220	065G0603104 12	CER2 0603 X7R 16V 100N P
C245	065G0603104 12	CER2 0603 X7R 16V 100N P
C302	065G0603104 12	CER2 0603 X7R 16V 100N P
C303	065G0603104 12	CER2 0603 X7R 16V 100N P
C304	065G0603104 12	CER2 0603 X7R 16V 100N P
C305	065G0603104 12	CER2 0603 X7R 16V 100N P
C306	065G0603104 12	CER2 0603 X7R 16V 100N P
C307	065G0603104 12	CER2 0603 X7R 16V 100N P
C614	065G0603105 12	CHIP 1UF 16VX7R 0603
C617	065G0603223 32	CHIP 0.022UF 50V X7R 0603
C331	065G0603224 22	CHIP 0.22UF 25V X7R

L201	071G 56K121 M	CHIP BEAD
L301	071G 56K121 M	CHIP BEAD
L302	071G 56K121 M	CHIP BEAD
L303	071G 56K121 M	CHIP BEAD
L304	071G 56K121 M	CHIP BEAD
L305	071G 56K121 M	CHIP BEAD
L306	071G 56K121 M	CHIP BEAD
L401	071G 56K121 M	CHIP BEAD
L402	071G 56K121 M	CHIP BEAD
FB204	071G 59B431	BK1608 HW 431
FB201	071G 59C600	CHIP BEAD
FB202	071G 59C600	CHIP BEAD
FB203	071G 59C600	CHIP BEAD
D201	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D202	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D203	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D204	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D205	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D206	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D207	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D208	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D211	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D212	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D213	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D209	093G 64 42 P	BAV70 SOT-23
D210	093G 64 42 P	BAV70 SOT-23
ZD208	093G 39P599 T	MM3Z5V6B
ZD209	093G 39P599 T	MM3Z5V6B
ZD210	093G 39P599 T	MM3Z5V6B
ZD211	093G 39P599 T	MM3Z5V6B
ZD212	093G 39P599 T	MM3Z5V6B
ZD301	093G 39P599 T	MM3Z5V6B
ZD203	093G 39P599 T	MM3Z5V6B
ZD204	093G 39P599 T	MM3Z5V6B
ZD207	093G 39P599 T	MM3Z5V6B
ZD201	093G 39P599 T	MM3Z5V6B
ZD202	093G 39P599 T	MM3Z5V6B
D601	093G2040 3F	FA20-04
D602	093G2040 3F	FA20-04
	715G2254 1	MAIN BOARD PCB

	KEPC6QD2	KEY BOARD
CN1	089G176J 810A	FFC CABLE
	Q52G6022 28	TAPE
C01	065G0603104 12	CER2 0603 X7R 16V 100N P
C02	065G0603104 12	CER2 0603 X7R 16V 100N P
SW01	077G 605 1 AL GP	SMD SWITCH
SW02	077G 605 1 AL GP	SMD SWITCH
SW03	077G 605 1 AL GP	SMD SWITCH
SW04	077G 605 1 AL GP	SMD SWITCH
SW05	077G 605 1 AL GP	SMD SWITCH
LED01	081G 14501 KT	CHIP LED
ZD07	093G 39P599 T	MM3Z5V6B
ZD06	093G 39P599 T	MM3Z5V6B
ZD05	093G 39P599 T	MM3Z5V6B
ZD04	093G 39P599 T	MM3Z5V6B
ZD03	093G 39P599 T	MM3Z5V6B
ZD01	093G 39P599 T	MM3Z5V6B
ZD02	093G 39P599 T	MM3Z5V6B
	715G2249 1	KEY BOARD PCB
	PWPC1942LGD4P	POWER BOARD
CN801	033G8021 2E U	WAFER
CN802	033G8021 2E U	WAFER
CN803	033G8021 2E U	WAFER
CN804	033G8021 2E U	WAFER
	040G 45762412B	CBPC LABEL
	051G 6 4503	RTV
IC902	056G 139 3B	PC123 Y82FZ0F
NR901	061G 58080 WT	8 OHM NCT
R921	061G 208100 64	RST MOFR 10OHM +-5% 1W
R920	061G152M180 64	RST MOFR 18 OHM +-5% 2WS
C932	065G306M4722BM GP	4700PF +-20% 400VAC
L922	073G 253 91 L	CHOKE BY LI TA
L921	073G 253 91 L	CHOKE BY LI TA
CN901	087G 501 32 S	AC SOCKET
CN903	088G 304 8K C	DC JACK
CN902	095G8013 12 13	WIRE HARNESS
	705G 780 61 26	R909 ASS'Y
R909	061G152M10458F	100K OHM 5% 2W
	096G 29 6	H.S. TUBE
	705G 780 61 27	R916 ASS'Y

R916	061G152M30858F	0.3 OHM 5% 2W
	096G 29 6	H.S. TUBE
	705G 780 93 26	D921/IC922 ASS'Y
IC922	056G 563 37	KA278R12CTU TO-220F-4L
	090G6263 1	HEAT SINK
D921	093G 60257	DIODE SB1060FCT ITO-220AB BY PAN JIT
	0M1G1730 8128 CR3	SCREW
	0M1G1730 8128 CR3	SCREW
	705G 780 93 27	D920 ASS'Y
D920	093G 60258	DIODE FME-220B TO-220 SANKEN
	0M1G1730 10128 CR3	SCREW
	705G 780 93 28	DB901/Q900 ASS'Y
Q900	057G 667 21	STP10NK70ZFP
DB901	093G 50460506	D3SB60
	0M1G1730 10128 CR3	SCREW
	705LQ7K0 65001	A4 ASS'Y
C900	063G 10747410S	CAPACITANCE
C816	065G 3J1206ET	12PF 5% SL 3KV TDK
C825	065G 3J1206ET	12PF 5% SL 3KV TDK
C826	065G 3J5096ET	5PF 5% SL 3KV
C817	065G 3J5096ET	5PF 5% SL 3KV
C901	065G305M2222EM	2200PF+-20% 250VAC/400VAC
C902	065G305M2222EM	2200PF+-20% 250VAC/400VAC
C903	067G215L10115N	EC CAP 105℃100UF 450V
C922	067G215L102 4N	KY25VB1000M-L 12.5*20
C923	067G215L102 4N	KY25VB1000M-L 12.5*20
C924	067G215L102 4N	KY25VB1000M-L 12.5*20
C935	067G215L471 4N	KY25VB470M-L10*16
C926	067G215L471 4N	KY25VB470M-L10*16
C925	067G215L471 4N	KY25VB470M-L10*16
C820	067G215L471 4N	KY25VB470M-L10*16
C811	067G215L471 4N	KY25VB470M-L10*16
D901	093G1020 752T	UF4003
D900	093G1100 1052T	BA159G
IC901	056G 379 52	LD7552BS
IC801	056G 608 10	0Z9938
Q803	057G 417 12 T	KEC 2N3904S-RTK/PS
Q802	057G 417 12 T	KEC 2N3904S-RTK/PS
Q801	057G 417 12 T	KEC 2N3904S-RTK/PS
Q805	057G 763 14	AM9945N

Q806	057G 763 14	AM9945N
RJ808	061G0805000	0 OHM 1/10W
RJ807	061G0805000	0 OHM 1/10W
R837	061G0805100	10 OHM 1/10W
R842	061G0805100	10 OHM 1/10W
R917	061G0805101	RST CHIPR 100 OHM +-5% 1/8W
R836	061G0805102	CHIP 1KOHM 1/10W
R843	061G0805102	CHIP 1KOHM 1/10W
R925	061G0805102	CHIP 1KOHM 1/10W
R927	061G0805102	CHIP 1KOHM 1/10W
R803	061G0805103	10 KOHM 1/10W
R804	061G0805103	10 KOHM 1/10W
R812	061G0805103	10 KOHM 1/10W
R914	061G0805103	10 KOHM 1/10W
R915	061G0805103	10 KOHM 1/10W
R810	061G0805104	RST CHIP 100K 1/8W 5%
R815	061G0805104	RST CHIP 100K 1/8W 5%
R816	061G0805104	RST CHIP 100K 1/8W 5%
R821	061G0805104	RST CHIP 100K 1/8W 5%
R831	061G0805104	RST CHIP 100K 1/8W 5%
R911	061G0805104	RST CHIP 100K 1/8W 5%
R919	061G0805104	RST CHIP 100K 1/8W 5%
R813	061G0805105	1MOHM 1/10W
R811	061G0805105	1MOHM 1/10W
R826	061G0805112	RST CHIPR 1.1 KOHM +-5% 1/8W
R828	061G0805150	15 0805
R829	061G0805150	15 0805
R820	061G0805153	RST CHIPR 15KOHM +-5% 1/8W
R830	061G0805153	RST CHIPR 15KOHM +-5% 1/8W
C808	061G0805183	RST CHIPR 18 KOHM +-5% 1/8W
R807	061G0805220	22&8 1/10W
R841	061G0805221	RST CHIPR 220 OHM +-5% 1/8W
R929	061G0805240 1F	2.4KOHM 1/10W 1%
R802	061G0805304	RST CHIPR 300 KOHM +-5% 1/8W
R926	061G0805330 2F	33 KOHM 1/10W 1%
R924	061G0805360 1F	3.6KOHM 1/10W 1%
R817	061G0805390 2F	RST CHIPR 39 KOHM +-1% 1/8W
R825	061G0805561	560 0805
R835	061G0805561	560 0805
R827	061G0805562	RST CHIPR 5.6 KOHM +-5% 1/8W

R834	061G0805562	RST CHIPR 5.6 KOHM +-5% 1/8W
R814	061G0805563	56KOHM 1/10W
R823	061G0805753	CHIP 75KOHM 1/10W
R833	061G0805753	CHIP 75KOHM 1/10W
R918	061G0805753	CHIP 75KOHM 1/10W
F902	061G1206000	0 OHM 1/8W
R801	061G1206000	0 OHM 1/8W
RJ801	061G1206000	0 OHM 1/8W
RJ802	061G1206000	0 OHM 1/8W
RJ803	061G1206000	0 OHM 1/8W
RJ804	061G1206000	0 OHM 1/8W
RJ805	061G1206000	0 OHM 1/8W
FB901	061G1206000	0 OHM 1/8W
R808	061G1206104	RST CHIPR 100 KOHM +-5% 1/4W
R818	061G1206150	15 OHM 1/8W
R819	061G1206150	15 OHM 1/8W
R839	061G1206220	RST CHIPR 22 OHM +-5% 1/4W
R840	061G1206220	RST CHIPR 22 OHM +-5% 1/4W
R910	061G1206229	RST CHIPR 2.2 OHM +-5% 1/4W
R900	061G1206334	330KOHM 1/8
R901	061G1206334	330KOHM 1/8
R902	061G1206334	330KOHM 1/8
R903	061G1206434	RST CHIPR 430 KOHM +-5% 1/4W
R904	061G1206434	RST CHIPR 430 KOHM +-5% 1/4W
R905	061G1206434	RST CHIPR 430 KOHM +-5% 1/4W
R805	061G1206471	470 1206
R906	061G1206514	RST CHIPR 510 KOHM +-5% 1/4W
R907	061G1206514	RST CHIPR 510 KOHM +-5% 1/4W
R908	061G1206514	RST CHIPR 510 KOHM +-5% 1/4W
C805	065G0805102 32	CHIP 1000P 50VX7R 0805
C807	065G0805103 32	10NF/50V/0805/X7R
C908	065G0805104 22	0.1UF +-10% 25V X7R 080
C938	065G0805104 32	CHIP 0.1U 50V X7R
C937	065G0805104 32	CHIP 0.1U 50V X7R
C936	065G0805104 32	CHIP 0.1U 50V X7R
C930	065G0805104 32	CHIP 0.1U 50V X7R
C927	065G0805104 32	CHIP 0.1U 50V X7R
C905	065G0805104 32	CHIP 0.1U 50V X7R
C806	065G0805105 22	CHIP 1UF 25V X7R 0805
C822	065G0805152 22	CHIP 1500PF 25V X7R 0805

C813	065G0805152 22	CHIP 1500PF 25V X7R 0805
C812	065G0805152 22	CHIP 1500PF 25V X7R 0805
C823	065G0805152 22	CHIP 1500PF 25V X7R 0805
C815	065G0805152 31	1.5N/50V
C814	065G0805152 31	1.5N/50V
C907	065G0805221 32	CHIP 220PF 50V X7R 0805
C934	065G0805223 22	CHIP 0.022UF 25V X7R 080
C804	065G0805225 12	CHIP 2.2UF 15V X7R 0805
C827	065G0805471 31	CHIP 470PF 50V NPO
C818	065G0805471 31	CHIP 470PF 50V NPO
C810	065G0805471 31	CHIP 470PF 50V NPO
C809	065G0805473 32	CHIP 0.047UF 50V X7R
C819	065G0805473 32	CHIP 0.047UF 50V X7R
D801	093G 64 42 PP	BAV70 SOT-23
D803	093G 64 42 PP	BAV70 SOT-23
D922	093G 6432S	IN4148W
D923	093G 6432S	IN4148W
D804	093G 6433P	BAV99
D802	093G 6433P	BAV99
ZD801	093G 39S 24 T	RLZ 5.6B LLDS
ZD922	093G 39S 25 T	RLZ5.1B LLDS
ZD920	093G 39S 38 T	PTZ 9.1B
ZD921	093G 39S 40 T	RLZ 13B LLDS
NR901	006G 31502	1.5MM RIVET
C903	006G 31502	1.5MM RIVET
L902	006G 31502	1.5MM RIVET
PT801	006G 31502	1.5MM RIVET
PT802	006G 31502	1.5MM RIVET
T901	006G 31502	1.5MM RIVET
IC903	056G 158 10 T	IC AZ431AZ-AE1 TO-92 BY AAC
IC921	056G 158 10 T	IC AZ431AZ-AE1 TO-92 BY AAC
Q921	057G 419501 T	KTC945P
Q922	057G 760 8 T	KRC102M-ATP
R913	061G 17210252T	1K OHM 5% 1/4W
R912	061G 17222052T	RST CFR 22 OHM +-5% 1/4W
R922	061G 17222152T	220 OHM 5% 1/4W
R928	061G 17239252T	3.9KOHM 5% 1/4W
R930	061G 60210252T	CFR 1K OHM +-5% 1/6W
R931	061G 60247252T	4.7K OHM 5% 1/6W
R832	061G212Y625 KT	MGFR 6.2MOHM +-5% 1/2W

R822	061G212Y625 KT	MGFR 6.2MOHM +-5% 1/2W
C904	065G 1K152 1T	1.5NF/1KV Z5F+-10%
C931	065G 450104 4T	0.1UF Z5V 50V
C920	065G517K332 1T6213	CER 3300PF K 500V TDK
C921	065G517K472 1T6921	CER CAP 4700PF K 500V
C906	067G 2152207NT	KY50VB22M-TP5 5*11
F901	084G 56 1	FUSE 2A 250V WICKMANN
	715G1775 4	POWER BOARD PCB
L901	S73G17476V	FILTER
L902	S73G17477V	FILTER
	034FPE19P03	CASE EEL19
PT802	S80GL19T8V1	TRANSFORMER ASS'Y
	034FPE19P03	CASE EEL19
	Q11G0008 1	TIE MOUNTS
	Q33G0075AAMA1L	BUTTON FUNCTION
	Q34G0153 VHA1B	BEZEL(19")
	Q34G0154 SN 1B	REAR COVER(19")
	Q37G0021 2	HINGE ASSY(19")
	Q40G 19N700 6A	RATING LABEL
	Q40G0001700 4A	DELL CARTON LABEL
	Q41G780070083A	QSG FOR 1908FP
	Q41G780070084A	1908FP PIG
	Q44G3231 15607	EVA WASHER
	Q44G9047 1	EPS(UP)
	Q44G9047 2	EPS(DOWN)
	Q44G9047 3EPE	EPE
	Q44G9047700 1A	CARTON
	Q44GSLIP10032B	PLASTIC SLIPSHEET
	Q52G6025 13 80	MYLAR
	Q70G9000700 4A	CD MANUAL FOR 1908FP
	Q85G 725 2	SHIELD USB
	S95G80183627	LVDS ASS'Y
	033F206H24JWT0	A2006H00-2*12PHK
	033F303SM24K30	PK2407P30/TD00-30LH
	071FW100001013	14.2*7.2*28.5+H/S
	033F206T2JWTOP	A2006TOP-2
	033F303TTD1	TD00-T 2407PS-00
	SQ15G82713B	MAIN FRAME
	002F6150045 M3	RIVER
	002F6155091 M3	RIVET

	002F6370045 M4	RIVET
	SQ85G7242A	SHIELD COVER
	020F 027 2B	DIECASTING
	019F 588 3	SPRING
	015F8185 1	BRACKET
	015F8186 1	BRACKET
	0M1F 130 4 47	SCREW
	002F6570108 M4	RIVET
	002F6450138 00	RIVET
	015F6310 1	BRACKET
	USB6QA1P	USB BOARD
CN705	088G 352 6 CL	USB CONN T TYPE REVERSE
CN706	088G 352 6 CL	USB CONN T TYPE REVERSE
CN707	095G8014 10 30	WAFER 10P RIGHT ANGLE PITCH 2.
C732	065G601M104 7T	0.1UF +-20% 50V Y5V
C733	065G601M104 7T	0.1UF +-20% 50V Y5V
	715G1665 1 3	USB BAORD PCB
	USB780A2P	USB BOARD
CN702	033G8027 10 H	WAFER 2*5P 2.0MM
C707	067G215L101 4N	KY25VB100M-L 6.3*11
C708	067G215L101 4N	KY25VB100M-L 6.3*11
C706	067G215L101 4R	LOW E.S.R 100UF +/-20% 25V
C705	067G215L101 4R	LOW E.S.R 100UF +/-20% 25V
C725	067G215L221 4N	KY25VB220-M-L8*11.5MM
C742	067G215L221 4N	KY25VB220-M-L8*11.5MM
C734	067G215L470 4N	KY25VB47M-L 5*11
C728	067G215Y100 7N	KY50VB10M-L 5*11
CN704	088G 350 1 CL	USB CONN AX2
CN703	088G 3512B1 CL	USB CONN BLACK
X701	093G 22 45 J	24MHZ/30PF/49US
CN701	095G8014 14 33	USB HARNESS 5P
L701	S73G253127V	TRANSFORMER ASS'Y
U702	056G 563 57	AP1510SA
U703	056G 585 4	IC AIC1117-33PYTR-R AIC
U701	056G 659 2	IC USB CTRL USB2504 TQFP 64P
F704	061G 56075 WT	PTC KMC 5S075R001-0.75MA
F703	061G 56075 WT	PTC KMC 5S075R001-0.75MA
F702	061G 56075 WT	PTC KMC 5S075R001-0.75MA
F701	061G 56075 WT	PTC KMC 5S075R001-0.75MA
R740	061G0603000	RST CHIPR 0 OHM +-5% 1/10W

R741	061G0603000	RST CHIPR 0 OHM +-5% 1/10W
R755	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R749	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R747	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R745	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R716	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R714	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R712	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R710	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R707	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R706	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R704	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R703	061G0603104	RST CHIPR 100 KOHM +-5% 1/10W
R702	061G0603104	RST CHIPR 100 KOHM +-5% 1/10W
R701	061G0603104	RST CHIPR 100 KOHM +-5% 1/10W
R708	061G0603105	RST CHIPR 1 MOHM +-5% 1/10W
R709	061G0603113 2F	RST CHIPR 11.3 KOHM +-1% 1/10W
R753	061G0603123	RST CHIPR 12 KOHM +-5% 1/10W
R717	061G0603153	RST CHIPR 15KOHM +-5% 1/10W
R715	061G0603153	RST CHIPR 15KOHM +-5% 1/10W
R713	061G0603153	RST CHIPR 15KOHM +-5% 1/10W
R711	061G0603153	RST CHIPR 15KOHM +-5% 1/10W
R746	061G0603221	RST CHIPR 220 OHM +-5% 1/10W
R754	061G0603222	RST CHIPR 2.2 KOHM +-5% 1/10W
R750	061G0603362	RST CHIPR 3.6 KOHM +-5% 1/10W
R705	061G0603391	RST CHIPR 390 OHM +-5% 1/10W
C731	065G0603103 32	0.01UF +-10% 50V X7R
C719	065G0603103 32	0.01UF +-10% 50V X7R
C718	065G0603103 32	0.01UF +-10% 50V X7R
C717	065G0603103 32	0.01UF +-10% 50V X7R
C716	065G0603103 32	0.01UF +-10% 50V X7R
C715	065G0603103 32	0.01UF +-10% 50V X7R
C713	065G0603103 32	0.01UF +-10% 50V X7R
C711	065G0603103 32	0.01UF +-10% 50V X7R
C710	065G0603103 32	0.01UF +-10% 50V X7R
C709	065G0603103 32	0.01UF +-10% 50V X7R
C741	065G0603104 12	CER2 0603 X7R 16V 100N P
C736	065G0603104 12	CER2 0603 X7R 16V 100N P
C733	065G0603104 12	CER2 0603 X7R 16V 100N P
C727	065G0603104 12	CER2 0603 X7R 16V 100N P

C724	065G0603104 12	CER2 0603 X7R 16V 100N P
C723	065G0603104 12	CER2 0603 X7R 16V 100N P
C722	065G0603104 12	CER2 0603 X7R 16V 100N P
C721	065G0603104 12	CER2 0603 X7R 16V 100N P
C702	065G0603104 12	CER2 0603 X7R 16V 100N P
C701	065G0603104 12	CER2 0603 X7R 16V 100N P
C704	065G0603220 31	CER1 0603 NP0 50V 22P PM
C703	065G0603220 31	CER1 0603 NP0 50V 22P PM
C712	065G0805475 A5	0805 4.7UF +-10% 10V X5R
C714	065G0805475 A5	0805 4.7UF +-10% 10V X5R
C720	065G0805475 A5	0805 4.7UF +-10% 10V X5R
FB707	071G 56K121 M	CHIP BEAD
FB705	071G 56K121 M	CHIP BEAD
FB704	071G 56K121 M	CHIP BEAD
FB703	071G 56K121 M	CHIP BEAD
FB702	071G 56K121 M	CHIP BEAD
FB701	071G 56K121 M	CHIP BEAD
FB706	071G 56Z601 M	CHIP BEAD 600OHM
L706	073G253S 1 B	CHOKE COIL
L705	073G253S 1 B	CHOKE COIL
L704	073G253S 1 B	CHOKE COIL
L703	073G253S 1 B	CHOKE COIL
L702	073G253S 1 B	CHOKE COIL
ZD710	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD709	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD708	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD707	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD706	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD705	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD704	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD703	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD702	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
ZD701	093G 64 49 SU	DIODE ESD EGA 10603V05A1-B INPAQ
D701	093G5004 1	SR54 T0-214AA
	715G1666 1	USB BOARD PCB

14. Different Parts List

Diversity Of T96GGCHKFDDEDP Compared With T96GGCHKFDDGDP		
Location	**Part No.**	**Description**
E750L	750GLG90E8B41N	PANEL LCD LM190E08-TLB4 LPL

Diversity Of T96SGCHKFDDEDP Compared With T96GGCHKFDDGDP		
Location	**Part No.**	**Description**
	0M1G 130 5225 CR3	SCREW
E750L	750GLS90L3121N	PANEL LCD LTM190EX-L31 8N1(DNR) SEC
	CBPC6SGCDGQ	MAIN BOARD
C609	067G215Y2207NV	KY50VB22M-CC3 5*11
	PWPC1942SED4P	POWER BOARD
L921	073G 253 91 T	CHOKE
R809	061G0805105	1MOHM 1/10W
R826	061G0805152	RST CHIPR 1.5 KOHM +-5% 1/8W
R811	061G0805154	RST CHIPR 150KOHM +-5% 1/8W
R816	061G0805155	RST CHIPR 1.5 MOHM +-5% 1/8W
R808	061G1206474	470KOHM 1/8W
C803	065G0805103 32	10NF/50V/0805/X7R
C808	065G0805682 32	MLCC 0805 CAP 6800PF K 50V X7R
D802	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D804	093G 64 33	DIO SIG SM BAV99 (PHSE)R
ZD801	093G 39GA01 T	RLZ5.6B
	SQ15G82712B	MAIN FRAME

Diversity Of T96SGCHKFDDFDP Compared With T96GGCHKFDDGDP		
Location	**Part No.**	**Description**
	0M1G 130 5225 CR3	SCREW
E750L	750GLS90L3122N	PANEL LCD LTM190EX-L31 8NB(DNS) SEC
	CBPC6SGCDGQ	MAIN BOARD
C609	067G215Y2207NV	KY50VB22M-CC3 5*11
	PWPC1942SED4P	POWER BOARD
L921	073G 253 91 T	CHOKE
R809	061G0805105	1MOHM 1/10W
R826	061G0805152	RST CHIPR 1.5 KOHM +-5% 1/8W
R811	061G0805154	RST CHIPR 150KOHM +-5% 1/8W
R816	061G0805155	RST CHIPR 1.5 MOHM +-5% 1/8W
R808	061G1206474	470KOHM 1/8W
C803	065G0805103 32	10NF/50V/0805/X7R

C808	065G0805682 32	MLCC 0805 CAP 6800PF K 50V X7R
D802	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D804	093G 64 33	DIO SIG SM BAV99 (PHSE)R
ZD801	093G 39GA01 T	RLZ5.6B
	SQ15G82712B	MAIN FRAME

Diversity Of T96SGCHKFDDGDP Compared With T96GGCHKFDDGDP		
Location	**Part No.**	**Description**
	0M1G 130 5225 CR3	SCREW
E750L	750GLS90L3111N	PANEL LCD LTM190EX-L31 8L1(D0R) SEC
	CBPC6SGCDGQ	MAIN BOARD
C609	067G215Y2207NV	KY50VB22M-CC3 5*11
	PWPC1942SED4P	POWER BOARD
L921	073G 253 91 T	CHOKE
R809	061G0805105	1MOHM 1/10W
R826	061G0805152	RST CHIPR 1.5 KOHM +-5% 1/8W
R811	061G0805154	RST CHIPR 150KOHM +-5% 1/8W
R816	061G0805155	RST CHIPR 1.5 MOHM +-5% 1/8W
R808	061G1206474	470KOHM 1/8W
C803	065G0805103 32	10NF/50V/0805/X7R
C808	065G0805682 32	MLCC 0805 CAP 6800PF K 50V X7R
D802	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D804	093G 64 33	DIO SIG SM BAV99 (PHSE)R
ZD801	093G 39GA01 T	RLZ5.6B
	SQ15G82712B	MAIN FRAME

Diversity Of T96SGCHKFDDMDP Compared With T96GGCHKFDDGDP		
Location	**Part No.**	**Description**
	0M1G 130 5225 CR3	SCREW
E750L	750GLS90L3112N	PANEL LCD LTM190EX-L31 8LB(D0S) SEC
	CBPC6SGCDGQ	MAIN BOARD
C609	067G215Y2207NV	KY50VB22M-CC3 5*11
	PWPC1942SED4P	POWER BOARD
L921	073G 253 91 T	CHOKE
R809	061G0805105	1MOHM 1/10W
R826	061G0805152	RST CHIPR 1.5 KOHM +-5% 1/8W
R811	061G0805154	RST CHIPR 150KOHM +-5% 1/8W
R816	061G0805155	RST CHIPR 1.5 MOHM +-5% 1/8W
R808	061G1206474	470KOHM 1/8W
C803	065G0805103 32	10NF/50V/0805/X7R

C808	065G0805682 32	MLCC 0805 CAP 6800PF K 50V X7R
D802	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D804	093G 64 33	DIO SIG SM BAV99 (PHSE)R
ZD801	093G 39GA01 T	RLZ5.6B
	SQ15G82712B	MAIN FRAME